OCTOBER 25, 1923

THE RUBBER AGE

VOL. XIV. NO. 2

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The Only Twice-a-Month Rubber Publication

VOL. XIV. OCTOBER 25, 1923 No. 2

KELLY AKRON PLANT REOPENED ON OCT. 15

Plant Idle Since July Reopened on October 15—1000 to be Employed—In Full Operation by November 15—Cumberland Plant Not to be Closed

The Kelly-Springfield Tire Co., has reopened its Akron plant which was closed in July. Contrary to reports however the Cumberland, Md. plant will not be closed. It will be operated in conjunction with its Akron plant to take care of production needs.

It is planned on getting the factory working at capacity inside of a month according to a statement made to THE RUBBER AGE in the New York office of the company. Over 1000 will be employed.

Announcement of the resumption of production in the Kelly-Springfield plant is the most important industrial news, from an Akron standpoint, that has been made in months. It will not only add another industry to the city but will relieve the slight unemployment situation there.

According to E. E. Helm of the Akron Chamber of Commerce, the unemployment situation is not acute at present, and the resumption of activities by the Kelly plant may cause a shortage of labor for a time.

RUBBER TECHNOLOGY CLASSES IN LONDON

The syllabus of the Northern Polytechnic Institute (Holloway, London, N. 7.), contains the particulars of the courses in rubber technology—under the directorship of Dr. Schidrowitz—which may be followed by students during the 1923-24 session. The classes are divided into senior and junior day courses and evening courses (two evenings a week). The senior day course is principally intended for students who have a good knowledge of organic chemistry and physics, and who may desire to qualify for positions in various branches of the rubber manufacturing industry.

The fees are £18 per session or £6 per term. Special facilities are also provided for those desirous of carrying out research work, the fees in this case depending upon the nature of the original work contemplated. The junior day course is intended for boys of 14 to 15 years who wish to gain the necessary basic training in rubber workshop practice and allied subjects before entering the rubber industry. The fee is £4 per session inclusive. Many boys will have the opportunity of being apprenticed to London firms at the conclusion of the first year's course. The evening courses are divided into an elementary course and an advanced course, each held on two evenings a week. The evening elementary course (30s. per session) is fitted for those engaged or likely to be engaged in the business and essentially practical branches of the rubber industry, such as buying, selling and carrying out of manufacturing operations. It will consist of a series of simple and descriptive lectures followed by practical demonstrations and experimental work. The evening advanced course is designed for students having a good working knowledge of chemistry and physics. (*India Rubber Journal.*)

FIRESTONE REDUCES TIRE PRICES 15 PER CENT

NEW YORK, Oct. 15, 1923:—Another reduction in tire prices is announced by Firestone Tire and Rubber Company effective to-day. This latest decline is 15 per cent on all SS Cords except the 30 x 3 1/2 inch size, effective to dealers only. A change in cash discount from 5 per cent to 2 per cent was announced at the same time. As in other recent cuts the other tire manufacturers are expected to meet these new prices within a few days.

U. S. Changes Tire Prices

Following closely on the Firestone announcement of a decrease in tire prices comes the announcement of the readjustment of prices by the United States Tire Co. on Oct. 16. Straightside tires are reduced 3½ to 12 per cent while clinchers have been increased from 7½ to 10 per cent.

GENERAL TIRE SALES STILL SATISFACTORY

One of Few Tire Manufacturers Who Has Not Released Any Employees in Three Years—No Original Equipment Orders Is Cause—Regular Dividend Declared

In announcing the regular quarterly dividend of 1½ per cent on common stock ($50 par), payable Nov. 1, directors of The General Tire & Rubber Company, Akron, point out a most unique position occupied by the company in the tire business.

Not a single General Tire employee has been laid off for nearly three years, and the production and sales trends have been steadily upward ever since the world-wide slump that followed the war. General's position is especially noteworthy as a mark of stability in the Akron tire field, where production has gone up and down with the seasons and where there has been considerable curtailment of production by a number of manufacturers this fall.

The management attributes the steadiness of its position to the fact that General makes no tires for car manufactures, but does all of its business with the car owning public through dealers in the principal centers. It is not affected by the ups and downs of new car sales.

The season for annual meetings is now approaching. Last year General was "dubbed" the Studebaker of the Tire Industry because of its financial showing, and reports are that eminently satisfactory business leaves the company in the same relatively distinctive position for 1923.

Though tire prices generally are lower per mile than they have ever been before, General again calls attention to at least one reason why still further economies for the consumer cannot be effected at this time. Two and a half times the sum required for dividends on common and preferred stock is being paid this year in excise taxes alone. Last year it was shown that much more was required to pay taxes than wages, and this year the situation is said to be even more extreme. No relief from the extremely high tax on productive capital seems to be in sight at the present time. General, in spite of every business fluctuation and handicap, reports a very satisfactory year, and the annual meeting is awaited with interest.

N.T.D.A. TO HOLD NEXT CONVENTION IN N. Y.

Tire Dealers Will Meet in New York at the Pennsylvania Hotel on November 13-15. Many Problems Affecting Dealers and Manufacturers To Be Discussed.

Tire manufacturers will have an opportunity to get first hand views of their dealers regarding changes now being considered, in their merchandising policies, when delegates from all parts of the country assemble at the Annual Convention of the National Tire Dealers' Association, in the Hotel Pennsylvania, in New York City, November 13-14-15. As this convention will serve as an open forum at which there will be frank discussions by both dealers and manufacturers on the selling methods of the industry, the tire makers are cooperating with the N.T.D.A. officials in encouraging retailers to be in attendance.

During the past year there have been many developments in the business which have tended to disturb the dealers, and there are indications that important modifications are likely to be made shortly in the sales policies of some of the leading manufacturers. This makes the convention in November particularly timely. President George J. Burger, of the N. T. D. A., has canvassed dealers for their views on the topics to be considered at the business sessions and has received sufficient suggestions to prepare an interesting program.

One of the important points that the dealers will discuss is the elimination of the consumer's price list distributed by the manufacturers. At previous N. T. D. A. conventions this subject was considered, but there has always been a difference of opinion as to whether the price situation would be improved by the discontinuance of the suggested list. Some dealers held that the list only served as a basis for discounts and demoralized the price situation rather than stabilized it. Others contended that it established a standard of tire value. In view of the fact that several manufacturers recently withdrew their lists, this subject should develop some interesting discussions at the convention.

Spring dating is another phase of the tire business that is subject to much talk at this time. Again the dealers hold different views on its merits, those in certain sections declaring that it is necessary if they are expected to carry stocks over the dull months in anticipation of the opening of the selling season. Among manufacturers the feeling is expressed that spring dating can be continued without detrimental effects to the dealer or the manufacturer, if it is properly handled and not taken advantage of as the means of overstocking the retailers.

With the addition by some of the large companies of several lines of tires permitting them to offer a casing in three price classifications, it is expected that an effort will be made to have dealers handle all three grades of tires to obtain the company franchise. Those who have followed this development say that it is the answer of the large companies to the complaint of the dealer that he was compelled to stock a cheap tire in order to meet competition. Now that the standard manufacturers can offer a casing for every price requirement, it is expected that they will object to the practice followed by the dealer in the past in handling the first line of the standard company as a lead to the sale of other makes of tires at lower prices.

Since the last convention in Milwaukee, November 1922, a great many of the tire companies have changed their methods of handling national and commercial account business. No doubt interesting reports will be made as to the success of this movement — whether it has been profitable with these changes and whether there is still room for improvement on this score.

It is planned at the business sessions of this convention to have dealers and manufacturers prominent in allied lines address those present.

Tire dealers, large and small, will have the privilege of expressing their views at this convention, and an invitation is extended to all tire dealers to attend, whether they be members of the National Tire Dealers' Association or not.

Although the convention is several weeks off, dealers from Portland, Ore., Los Angeles, Calif., Little Rock, Ark., Chicago, Milwaukee, and many eastern and southern cities have already expressed their intention of being present.

WHAT IS WRONG WITH THE TIRE BUSINESS ?

Are there too many manufacturers?

Are there too many dealers?

To what extent are the business qualifications of a person looked into before receiving dealer consideration from the manufacturer?

Is spring-dating an evil which might cause disruption in the tire industry by overstocking?

Is the publishing of list prices injurious to the tire business?

Should the tire business, in regards to prices be put in the same classification as sugar, or milk or such other of the necessities of life?

Is the standardization of types and sizes of tires a needed factor to overcome the over-production by manufacturers and overstocking by dealers?

Is it important that manufacturers secure fewer dealers and better dealers for the handling of the same make of tires?

Should tire dealers handle one, or more makes of standard tires?

These are some of the points which will be taken up for consideration at the Fourth Annual Convention of Tire Dealers, by the National Tire Dealers' Association, to be held in New York at the Hotel Pennsylvania on November 13-15.

BRAZILIAN RUBBER EXPORTS DECREASE DURING JULY

Exports of rubber, according to grades, from Para and Manaos, Brazil and Iquitos, Peru, to the United States and Europe during the month of July 1923, were as follows:

Grade	To United States	To Europe
From Para Fine	181,738	229,439
From Para Medium	6,742	1,080
From Para Coarse	210,239	5,002
From Para Caucho	98,605	299,520
Total Para	497,324	535,041
From Manaos Fine	311,160	286,179
From Manaos Medium	76,579	17,627
From Manaos Coarse	92,269	15,771
From Manaos Caucho	41,275	159,888
Total Manaos	521,283	479,465
From Iquitos Fine	6,106	83,687
From Iquitos Medium	—	—
From Iquitos Coarse	286	—
From Iquitos Caucho	3,917	6,742
Total Iquitos	10,309	90,429
Totals to U. S. and Europe	1,028,916 Lbs.	1,104,935 Lbs.
Grand Total for July, 1923	2,133,851 Lbs.	
Grand Total for July, 1922	3,507,606 "	
Decrease in July, 1923	1,373,755 "	

This report is not encouraging if one does not take into consideration that this is the dull part of the year. Prices have been fairly steady and the demand fully sufficient to take care of all rubber that is coming forward.

As usual at this time of the year the various agents are completing their arrangements for shipping supplies into the interior and the Acre Territory and it will be some months later before the boats carrying the rubber will return to Manaos from Para.

The qualities known as Islands are received practically the entire year especially the coarser quality known as "sernamby," but the finer grades cannot be made in the wet season which is exactly the time when the production of the preceding dry season arrives.

Those concerned with the rubber trade in Para are now apparently more cheerful over the future than they have been for sometime past. The closing down of the public works in Ceara has also had the effect of releasing a large number of skilled rubber gatherers who will, no doubt, on their own initiative or assisted by owners of "seringaes" return to the Acre Territory which means that there is every reason to believe that the expected increase in production will be realized. (Consul G. H. Peckerell, Para).

Receiver For Maywald

Nathan Kessler has been appointed receiver for the Maywald Rubber Company, Nutley, N. J., it was recently announced. Insolvency is claimed by a coal company which held a claim of $702.65.

NEW GRAPHIC CHARTS OF TIRE STATISTICS

Rubber Association Inaugurates a New Graphic Presentation of the Monthly Tire Statistics—Charts Show Inventory, Production and Shipments.

Announcement is made by The Rubber Association of America, in a letter to all members of the Tire Manufacturers' Division, of the inauguration of a new phase of the statistical work of the association in the graphic presentation of certain important information concerning tire conditions compiled from the monthly reports of approximately sixty tire manufacturers.

For many months there have been signs of a desire on the part of members of the Tire Division for information about tire inventory, production and shipment conditions which would be more easily assimilated and more enlightening than the mass of figures alone. In other words, there are certain significant facts which are not evident on the surface of the tire statistical reports, and relatively few companies have been individually making the careful analysis of the monthly data which is necessary if the figures are to have more than an historical value.

The graphs are intended to meet that deficiency and should enable every busy executive to get the significant facts more quickly and impressively. For the present the graphs will show only the situation with respect to the inventory, production, shipments and "Progressive Average Supply" for casings (cord and fabric, separately), tubes and solid tires, but as soon as possible other important information will be presented in a similar manner.

In addition there are given in Statistical Bulletin No. 1, the following valuable information on consumption and sales based on the August reports:

Crude Rubber and Fabric Consumption Per Unit of Manufacture

The following representative amounts of fabric and crude rubber used per unit in the manufacture of casings, inner tubes and solid tires of all sizes, are based on the August tire reports. *The figures given represent the* MEDIAN *in each case, not an arithmetical average. Simply told, the median is the figure used by more manufacturers than any other single figure, representing the amount of raw material used in each unit of manufacture. It is lower than the arithmetical average and reflects the true condition more accurately.*

Fabric Casings .....contained
3.7 pounds of fabric per unit
Cord Casings .....contained
3.5 pounds of fabric per unit
Casings (Cord & Fabric together) ....contained
7.7 pounds of crude rubber per unit
Inner Tubes .....contained
1.6 pounds of crude rubber per unit
Solid Tires .....contained
33.0 pounds of crude rubber per unit

Percentages of Change in Domestic Sales of Casings, Tubes, Solid Tires and in Gasoline Consumption. For August, 1923

Compared with July, 1923
CASINGS shows an increase of 8.6 per cent
Compared with August, 1922
a decrease of 22.4 per cent
Compared with July, 1923
TUBES shows an increase of 7.3 per cent
Compared with August, 1922
a decrease of 4.7 per cent
Compared with July, 1923
SOLID shows an increase of 10.0 per cent
Compared with August, 1922
a decrease of 36.6 per cent
Compared with July, 1923
GASOLINE Consumption
shows an increase of 4.0 per cent
Compared with August, 1922
an increase of 12.1 per cent

DETAILS OF PAUL SYSTEM COMMUNITY TIRE FACTORIES

Within the past few months vague reports of the starting of small community tire factories in the South have come to hand. We have now received more details of this plan which is being sponsored by the Paul Rubber Company, Salisbury, N. C. The announcement says:

"The Paul System Community Tire Factory makes a new step in the tire industry. A great tire engineer of Akron, Ohio, working with the cooperation of the Paul Rubber Company has perfected a small plant for building tires which turns out a product said to be equal in every respect to the product of the larger factories. These small community factories will be established in every State. Each factory becoming a unit of the nation-wide system and each plant licensed to make the Clover Leaf Cord Tires which the Paul Rubber Company will continue to advertise nationally.

The Paul Rubber Company will supply all materials to these plants at low prices, install all machinery, furnish trained men, and in fact, cooperate in every possible way to insure the largest success. And yet each plant will be completely owned and operated by local people.

"These Paul Community Tire Factories require a total investment of only $7,500 to $15,000, and the local maker has a market right at his door that will greatly exceed his capacity. The advantages to the car owner in buying locally made tires are quickly appreciated. One can see his tires made, get fresh new stock with the full life of the rubber in every tire, have adjustments made fairly and quickly, and of course, obtain the finest tires at lower prices.

"At the same time the investment will be most attractive to the local tire maker. His small plant will turn out 20 to 40 tires a day, and on the comparatively small investment required, surprisingly large profits can be earned."

Hubbell Plant Starts Production

Production of cord tires was started the last week in September at the Hubbell Rubber Co., plant at Zanesville, Ohio. This factory was formerly operated by the Rotary Tire Company. An interesting feature of the organization of this company is the fact that it will run under a trustee plan with what is stated more security to those financially interested. Chas. C. Hubbell, formerly of Studebaker-Wulff Rubber Co., Marion, Ohio, is president; C. S. Shaner, Vice-President; J. C. Rehl, Treasurer and W. G. Rehl, trustee.

ACTIVITIES OF THE RUBBER ASSOCIATION

The Traffic Committee Active in Endeavoring to Have Various Rates Reduced—Hoover and Klein to Address Foreign Trade Division—Other Activities.

The Traffic Committee of the Rubber Association of America held its regular monthly meeting on October 15th, at the Yale Club in New York City. It considered the rules of carriers on assessment of demurrage with the idea in mind of making revisions in these rules. It also took up the question of rates on rubber tiling and jar ring shipping rates. The carriers are to be asked to reduce rates on the tiling while the matter of jar rings is still being investigated.

The Traffic Division also considered the proposal which is before the Board of Railway Commissioners of Canada before whom the express companies of Canada are asking for a general horizontal increase in express rates. Another matter which was discussed was the revision of rates on manufactured rubber products shipped between the Atlantic and Pacific coast westbound via water lines. Word of favorable action in this matter is expected within the next 30 days.

On October 16 the committee met before the Consolidated Freight Classification Committee which has jurisdiction over all freight classification matters and discussed the ratings on a number of rubber articles and chemicals used in the rubber industry. The most important subject discussed was the representation of lower rates for carload lots of soles and heels.

The next meeting of the Traffic Division will be on Nov. 13 at the La Salle Hotel in Chicago at which time the National Industrial Traffic League will also hold a meeting. Many members belong to both associations.

* * *

The date for the next annual meeting and banquet has been set for the first Monday in Auto Show week in New York, January 7, 1924. The place of meeting has not been decided yet but in all liklihood will be the Waldorf-Astoria Hotel as in former years.

* * *

At the regular October meeting of the Foreign Trade Division of the association, which will be held on October 23 in Washington, addresses will be made by Secretary of Commerce Herbert Hoover, Director Dr. Julius Klein of the Bureau of Foreign and Domestic Commerce and a number of other division heads.

* * *

The Board of Directors will meet in New York on October 25 to consider the following questions: The employment of a foreign trade publicity specialist to further the interests of American rubber manufacturers; to consider the recommendation of the Foreign Trade Division to distribute French, Spanish and British editions of the pamphlet on the care of tires.

(Continued on Page 51)

RUBBER WASHING PLANT IN PARA

Several Grades of Wild Rubber Now Being Produced in Crepe Form—Production of Seven to Eight Tons Daily—Two Shifts of Forty-Five Men

A crude rubber manufacturing plant in Para, Brazil, principally engaged in the production of crude rubber from the local raw product, is now operating on a small scale, according to a special report of A. O. Pierro, one of the members of the Crude Rubber Expedition of the Department of Commerce. The methods employed are reported to be indicative of the manner in which this product is handled locally preparatory to being placed on the market.

The greater part of the rubber produced is "sernamby", although some "fine hard Para" is also produced. In addition to producing crepe sheets, the product is made up into cubic forms, although the former is usually preferred in the market due to its superiority in point of drying quickly and lending itself to subsequent manufacture.

All of the raw product consumed by this plant is taken from the islands of the lower Amazon. The coagulated latex reaches the factory in balls. Here they are cut into smaller units and run through machines for the purpose of washing and eradicating the many impurities present in the latex, more especially in the case of the "sernamby" grade. The "fine hard Para" grade, which is smoked in the coagulating process, is of a darker color when brought into the factory than the "sernamby", and with the completion of the washing, the "sernamby" takes on a light color. Roller presses are next employed to press the rubber into sheets, and after being passed through a number of these presses the sheets are hung upon lines for drying.

Ordinarily these sheets are suspended from lines extending between the walls of the factory proper, but an innovation in the nature of an electrically heated and ventilated room, where a temperature of 45 degrees Centigrade is maintained, is meeting with success. Drying by this method requires but from two to three days, as compared with approximately thirty-five days needed for drying in the original manner. Another factor in favor of the hot-room method of drying is that the same degree of oxidization does not take place as in the open air, and in the case of "sernamby" especially, this prevents the rubber from becoming dark, and losing its good qualities.

The total number of workers at this factory approximates ninety, forty-five working during the day and about the same number at night. The daily wage rate averages from five to eight milreis, night work commanding the latter figure. (1 milreis equals about $0.10 at the current rate of exchange).

Present production of the plant ranges between seven and eight tons per day. The rate of output, however, depends greatly upon the quality of the raw rubber brought in. That requiring more than the average degree of washing necessarily causes the rate of output to diminish. When the plant is furnished with a clean grade of rubber the daily output amounts to ten tons.

Figures furnished by officials of this plant relative to the loss in drying of the various grades of local rubber are interesting. "Fine hard Para" loses from 15 to 20 per cent while "sernamby" loses from 50 to 60 per cent. Caucho, little of which is used by this factory, was said to lose from 25 to 30 per cent.

Due to the large amount of foreign substance in the "sernamby" grade of rubber, the sheets assume a dark color in the drying process, although considerable foreign substance has been removed in the washing operations. Although the washing removes most of the foreign substance, the color in the "fine hard Para" due to the smoking, cannot be removed. After the "sernamby" has been dried, workers are employed to pick from the sheets such impurities as can be extracted in this manner.

One of the basic reasons for the present preference of the market for the plantation product was manifested when several balls of "sernamby" were opened prior to being put through the washing process. Large stones, clods of earth and even vegetable matter were found included in the balls, resulting in a poor grade of rubber and great expense in production.

The plant has been in operation about eighteen months. For over a year, the enterprise was threatened due to difficult financial circumstances, but the financial condition of the plant is now improving owing to better conditions in the rubber market.

Ideal Plant Sold

An order was handed down on Sept. 28 by Federal Judge D. C. Westenhaver confirming the sale of the personal property of the Ideal Tire Co. to the National Mortgage Co. The order is said to mark the final liquidation of the Ideal assets, the plant and real estate already having been sold to the same company, now known as the Union Mortgage Co.

O. L. Brown, 792 Leader-News Building, Cleveland, Ohio, who asserts he acted for a group of old stockholders, announced he had acquired the Ideal plant and real estate from the Union Mortgage Co. He said the plant would be in operation within thirty days.

Lake Shore Plant in Sheriff's Hands

The Wellington, Ohio, plant of the Lake Shore Rubber Co., manufacturers of toy balloons, will be sold at a sheriff's sale on October 29. It is said that the plant is appraised at $15,000 and it is expected that stockholders will realize little on their investment. W. E. Boyd has been operating receiver of the plant for some time.

RECENT IMPORT DUTIES LEVIED ON RUBBER GOODS

Bulgaria

The import duties apply equally to the products of all countries.

Duties are assessed in gold, payable in paper at rate of increase fixed by coefficient (at present, 16 times basic duties). Unless otherwise mentioned in this circular, legal net weight is the basis for assessing the duties. The legal net weights is arrived at by deducting tare allowance from gross weight in the following proportions, according to kind of packing: Casks 10%; cases, 8%; baskets, 4%; sacks, 1%; bales, 2%; demijohns, 20%; all packing not specified, 5%. Ad valorem duties are based on wholesale selling price in home markets. The gold lev is equal to $0.193; kilo equals 2.2046 pounds avoirdupois.

There is a surtax of 5% of import duty on rubber goods.

Tariff No.	Articles.	Gold lev per 100 kilos.
319	India rubber and gutta-percha, raw or refined	Free.
320	Unvulcanized india rubber in sheets, slabs, or strips; gutta-percha in sheets	150.00
321	Elastic fabrics, bands and trimmings, with india rubber threads inserted:	
	(a) Entirely or partly of silk. (Net weight)	1200.00
	(b) Of other woven materials	600.00
322	Fabrics, bands and trimmings, impregnated or coated with india rubber, or with india rubber sheets inserted:	
	(a) Wholly or partially of silk	900.00
	(b) Of other woven materials	450.00
323	Clothes and other sewed or glued articles, or articles combined by other means, made out of materials mentioned in Tariff Nos. 321 and 322; also in combination with other materials. (Net weight)	Twice the rates provided by Nos. 321 & 322.
324	India rubber boots and shoes of all kinds; also in combination with other materials:	
	(a) Goloshes	200.00
	(b) All other	300.00
325	Articles not specifically mentioned, of soft india rubber:	
	(a) In combination with common materials (including rubber heels, tire casings and inner tubes for automobiles and bicycles)	400.00
	(b) In combination with fine materials. (Net weight)	1000.00
326	Articles of hardened india rubber:	
	(a) In combination with common materials	600.00
	(b) In combination with fine materials. (Net weight)	1000.00
327	Belts, tubes, and all other manufacturers for technical purposes, out of fabrics of all kinds, wholly or partially impregnated with rubber or inlaid with rubber	200.00
Ex530	(a) Tires for trucks, ambulances, and omnibuses	5% ad valorem.

Gutta-percha, balata, ebonite, and manufacturers thereof are dutiable as india rubber and manufactured products thereof.

Receiver for Newton Falls Rubber

Reese Jones, a banker of Newton Falls, Ohio, was appointed receiver for the Newton Falls Rubber Co., on October 18.

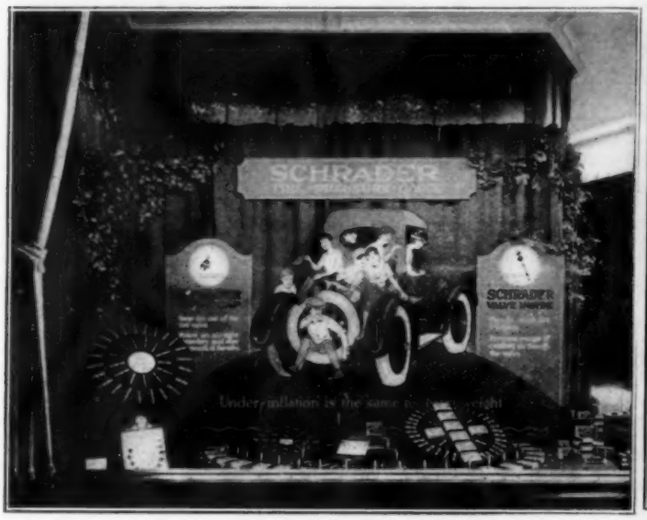
The Newton Falls Rubber Co. was organized largely by Cleveland capital which acquired the Hubbell Tire plant at receiver's sale. The company is capitalized for $500,000, all common stock, and has an issue of $250,000 first mortgage bonds outstanding.

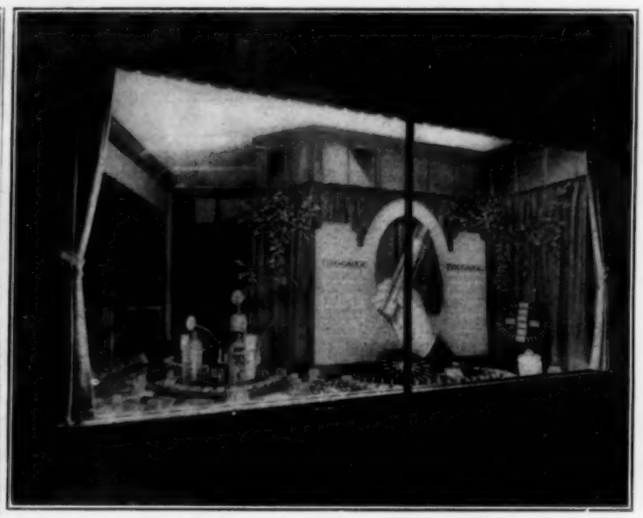
According to John Elden, attorney for the company, total claims are estimated at about $350,000. N. P. Angle is President, and W. N. Freeman, Vice-President.

SCHRADER INSTALLS NEW WINDOW DISPLAYS AT PLANT

Part of the blank wall and many of the frosted glass windows of the plant of A. Schrader's Son, Inc., Brooklyn, N. Y., are gone. Two large show windows now invite the thousands who pass the corner of Atlantic and Vanderbilt Avenues, to stop and examine unusually attractive displays of the Schrader products that are used by motorists throughout the world.

By taking full advantage of the junction of two streets, Schrader really has two separate window displays, one facing each thoroughfare."





NEW AND INTERESTING DISPLAY OF SCHRADER PRODUCTS

These two displays show how windows can help in the campaign to educate the automobile owner to the importance of keeping the prescribed air pressure in his tires. They have called forth much favorable comment because of the arrangement of the products shown. The story of correct inflation and how to keep it, is complete, yet simplicity of treatment and care not to overcrowd the windows gives the desired information quickly.

Besides, the displays tie-up so closely with the Schrader advertising that the man who stops can at once identify what there is with what he saw in a previous advertisement.

In one window against a black curtain and upon a slight elevation is a large cut-out of six boys hanging precariously to the back of an automobile whose tires are clearly under-inflated. Over the car is a sign, "Schrader Tire Pressure Gauge." Underneath the car are the words, "Under-inflation is the same as extra weight."

On one side of the car is a large display card showing the Schrader Valve Cap and explaining its function. On the right of the car is a similar card displaying the Schrader Valve Inside.

The main display in the window facing the other corner is the tire gauge. On either side of a hand holding a gauge are instructions concerning the use of this essential instrument. Other Schrader valve parts and accessories are arranged about the front of the windows. Among them are the Tire Gauge, Dust Cap, Valve Repair Tool and Pump Connection.

Kelly Adopts 8-Hour Day

An eight-hour basis for workers of the Kelly-Springfield Tire Company, Cumberland, Md., will be established, it was announced by Thomas C. Marshall, Vice President of the company and verified by Mr. Schener, President. Several departments will be affected by the policy beginning Oct. 15, and the new schedule of hours will be gradually extended. Mr. Marshall said that 1,300 employes who were laid off several months ago had been asked to return to work. He declared the business outlook to be "most promising."

Additional Workers Being Hired

The beginning of October saw a slight revival in reemployment in several of the Akron tire manufacturers. Both Miller and Firestone began to take on some of their former employees, Miller limiting itself to female help while Firestone took back some of the former male employees in addition to some girls. Increased production in the near future is expected as a result of additional orders received in the past several weeks.

Fisk Changes Accounting Period

The Fisk Rubber Company, Chicopee Falls, Mass., has announced that hereafter its accounting period will close on September 30 to conform more closely with the seasonal demands of the tire industry. Profits for the nine months ending September 30 will be about $2,000,000. It is said that approximately 12,000 tires a day are being manufactured at this time.

TUBE PROTECTOR FLAP ANNOUNCED BY STAR

The Star Rubber Company, Akron, Ohio, have recently perfected and are marketing a new tube protector flap made entirely of rubber. Many advantages are claimed for this flap among which are no deterioration from the action of water, grit or rust. It seats perfectly, preventing tube chafing and pinching.

According to R. G. Shirk, Sales Manager, heavy orders are taking care of the large production of these flaps. A great future is predicted for this newest addition to the Star line which is furnished in reels or in lengths cut to size.

Voorhees Opens Detroit Branch

The Voorhees Rubber Mfg. Co., Jersey City, N. J., manufacturers of mechanical rubber goods, tubes and accessories announces the opening of a branch and distributing store at 605 Wayne St., Detroit, Mich., under the management of D. H. Cassell. A full line of mechanical rubber goods will be carried in stock to take care of the Michigan, Northern Indiana and Ohio trade.

Fires in Several Rubber Plants

Fire, supposedly caused by a spark from a locomotive did damage estimated at $20,000 to a frame building of the Boontown Rubber Co., Boontown, N. J., on September 29.

The Olneyville, R. I., plant of the United States Rubber Company was slightly damaged by a fire caused by an overheated melting pot on the morning of October 3. The loss was slight.

Tracy Now With Henderson

R. B. Tracy, recently Sales Manager of the Paul Rubber Company, Salisbury, N. C., has been appointed Eastern Representative of the Henderson Tire and Rubber Co., Columbus, Ohio. Mr. Tracy was formerly connected with Michelin and Globe.

WEBSTER NOW DENMAN GENERAL MANAGER

Announcement is made of the promotion of Harry F. Webster to the position of General Manager of the Denman-Myers Cord Tire Company, Warren, Ohio. Mr. Webster first acted in the capacity of factory manager when he came with the company four years ago. He had charge of the construction of buildings, installation of machinery and general engineering work.

Previous to this connection Mr. Webster had been in the engineering department of Firestone Tire and Rubber Co., in Akron, working under Mr. Meyers, chief engineer. He has had two years war service and is a member of a number of prominent clubs.

Paul R. Manahan, who has been with Denman-Myers as Chief Chemist for three years, succeeds Mr. Webster as factory manager.

Paul Declares 8 Per Cent Dividend

The Paul Rubber Company, Salisbury, N. C., has declared a dividend of 8 per cent, its third semi-annual dividend. September sales amounted to $150,000, the largest in its history, according to reports.

Secretary Wallace Guest of Rutherford

Secretary of Agriculture Wallace was recently in Akron as the guest of W. O. Rutherford, Goodrich Vice-President. Mr. Wallace was shown through the Goodrich plant and addressed a group of department heads. In the evening he was the guest of honor at an informal dinner at the Akron City Club.

REVOLUTIONARY CHANGE IN RUBBER PREDICTED

Austrian Chemist Gives Rubber Latex as Clue

Dr. Ernest A. Hauser of Vienna, chief chemist for the Austrian Government and the Metallbank and Metallurgy Gesellschafft, who has been attending the World's Dairy Congress at Washington predicts some revolutionary changes in rubber manufacturing processes, but will say only that the rapid disposition to import latex is indicative of some of the improvement at hand.

"I predict something quite revolutionary in rubber in the near future," he said, "both here and in Europe, but you have somewhat the lead on us in your scientific and mechanical progress respecting rubber. While there are certain things respecting this revolution which I cannot discuss, I believe that the rapid disposition to import latex in place of biscuit rubber is indicative of some of the improvement at hand.

"More and more we will get our rubber in the latex form and that will mean systematic standardization of the gum free from all the variations and impurities it has had in the past. That will mean a purer product and one more easily worked into secondary products. Your experts are pursuing research in latex that cannot but be felt in the near future. I am astonished at the volume of tires you make here, but even that will be small compared with the future of the industry, in my opinion."

MASON CASH SALES PLAN PROVING SATISFACTORY

Officials of the Mason Tire and Rubber Company, Kent, Ohio, are loud in their praises of the cash sales and production plan which the company recently put into effect. This radical departure in tire merchandizing eliminates open accounts and puts the dealer in a much better financial condition, for he purchases only those tires he knows he can sell and is not permitted to stock up above his actual requirements.

In its campaign, the Mason company is urging dealers to stop giving spring dating orders, tie up money in stock, sell on a fictitious "list," do business on faith and to stop being 'hand-cuffed by antiquated sales methods.'

In a letter to stockholders the company explains its excellent financial condition and has the following to say of the results of its new sales plan: "Today we are absolutely deflated. Our orders are in excess of our production and our inventories are at the lowest point in several years. Our dealers inventories, also are at the lowest point they have ever reached—which means that our business from now on will be steady and in the proper seasons, heavy. The cure we have performed in our own case has been really remarkable, as our October 1 balance sheet will show current assets of eleven or twelve times current liabilities, and probably the most remarkable statement as regards a liquid position, of any tire manufacturer in the business."

Present operations at the plant are given as about 90 per cent capacity. The saving effected by the cash basis is estimated at about $250,000 per year. That the plan is not unpopular is shown that since its inauguration the number of accounts with tire dealers has doubled.

Trade Bulletins

THE DETERMINATION OF TIRE TEMPERATURES. By A. O. Ashman. Research Bulletin issued by The New Jersey Zinc Co., N. Y. City. 20 pp. Illustrated. Copies free upon application.

This bulletin is a revised edition of the bulletin on the same subject issued in 1921 and published in the Dec. 10, 1921 issue of THE RUBBER AGE (pp. 161-163). Additional experiments have however been conducted and the results given in this latest issue. Iron instead of copper-constantan couples were used because it is now obtainable in the smaller sizes and because copper did not lend itself to this use where free sulphur was present. Other improvements are also given as are the results of experiments on the possible error of the thermal conductivity of the wires when inserted in the tire.

RELIANCE INDUCTION MOTORS FOR TWO AND THREE PHASE A. C. CIRCUITS; RELIANCE ADJUSTABLE SPEED MOTORS FOR D. C. CURRENT. Bulletins No. 5018 and 1014 Respectively. Reliance Electric & Engineering Co., Cleveland, Ohio.

These two bulletins describe the design, construction and operation of A. C. and D. C. motors and in addition give a description of starting and reversing equipment. Illustrations of the motors and installations serve to show clearly the adaptability of these motors to use by the rubber industry for strainers, circular weavers etc. Two of the large Akron rubber manufacturers are listed as users of this equipment. Characteristic curves. dimensions and ratings are also given.

PROTESTING DRAFTS IN SOUTHEASTERN ASIA. Trade Information Bulletin, No. 143. Division of Commercial Laws. Supplement to Commerce Reports, Bureau of Foreign and Domestic Commerce. Prepared by A. J. Wolfe

THE BALANCE OF INTERNATIONAL PAYMENTS OF THE UNITED STATES IN 1922. Trade Information Bulletin No. 144. Division of Finance and Investment. Bureau of Foreign and Domestic Commerce. With a foreword by Herbert Hoover.

SHIPMENT OF SAMPLES AND ADVERTISING MATTER TO EUROPE. Trade Information Bulletin No. 145. Bureau of Foreign and Domestic Commerce. Prepared by R. P. Wakefield, under the direction of Henry Chalmers, Chief of the Division of Foreign Tariffs.

BELGIAN FINANCE AND INDUSTRY. Trade Information Bulletin. No. 146. Bureau of Foreign and Domestic Commerce, Western European Division. By S. H. Cross and E. A. Welden.

IMPORTATION OF RUBBER PRODUCTS INTO CENTRAL AMERICA. Monograph prepared by the Rubber Division of the Bureau of Foreign and Domestic Commerce, Department of Commerce.

FOREIGN COMMERCE HANDBOOK, 1923-1924. Prepared by the Foreign Commerce Department of the Chamber of Commerce of the United States, Washington, D. C. This handbook serves to indicate the sources of export and import service in the United States.

OCTOBER MEETING OF MIDWEST ASSOCIATION

There was a good attendance at the October 9th meeting of the Mid-West Rubber Manufacturers' Association held at the Hotel La Salle, Chicago.

At the meeting following the luncheon, the telegraphic communications to the Department of Justice sent on behalf of the Association by Mr. Follen as well as the reply by the Assistant Attorney General were read and discussed with a great deal of interest.

It was the consensus of opinion that while the apparent "alleged" combination of the big tire manufacturers was trying to undermine and practically exterminate the smaller manufacturers, nevertheless it would be a distinctly hard matter to procure and produce actual and tangible evidence. The subject has been turned over to an Indiana Congressman for his attention and whatever procedure he may find expedient to pursue.

Mention was made by one of the members that the tire industry is seriously considering Eugune Meyers, Jr., of the War Finance Cooperation acting as a "Judge Landis" of the tire industry.

It was also rumored that a second price cut by one of the large companies has been indefinitely postponed prompted by the action of the banks. The larger companies, it was explained, like the smaller companies are trying to reduce overhead expense. It was unanimously agreed that the whole situation is due to overproduction.

The next meeting will be held in Chicago on Tuesday, November 13, 1923.

Canadian Goodyear Sales Increase

In a statement issued with dividend checks, C. H. Carlisle, vice president and general manager of Goodyear Tire & Rubber Co. of Canada, Ltd., says net earnings for year ended Sept. 30 should approximate double the requirements for yearly dividends. Net sales will show, in dollars and cents, an increase over previous year, and in units a material increase.

Audited statement should show about $400,000 cash on hand, $1,700,000 reserves and $1,500,000 surplus after payment of dividends. Explanation is made that, owing to accumulation of stocks during winter months and disturbed financial conditions of country, directors have decided not to pay any deferred dividends at present.

Warden Appointed Credit Manager

D. W. Warden has been appointed credit manager of the Dayton Rubber Manufacturing Company, Dayton, Ohio, according to an announcement made by J. A. MacMillan, president of that company.

Mr. Warden formerly was credit manager of the Davis Sewing Machine Company, of Dayton, and before that time was assistant treasurer of the Firestone Tire and Rubber Company in Akron.

J. B. Bleiler

New Sales Manager for the Howe Tire & Rubber Corp.

NEW HOWE ADVERTISING AND SALES MANAGER

Announcement is made of the appointment of J. Budd Bleiler as General Sales Manager of the Howe Tire & Rubber Corporation, with headquarters at the factory, New Brunswick, N. J. Mr. Bleiler has been in the tire business since 1908, at which time he started with the Diamond Rubber Company. Later he acted as Factory Representative for the Republic Rubber Company, and during the past number of years has been with the Fisk Rubber Company as Factory Representative, calling on automobile manufacturers. He is well known in the tire industry throughout the United States.

Until recently the Sales and Advertising Offices of the Howe Tire & Rubber Corporation have been maintained in Cleveland. Mr. R. T. Christy has been appointed Advertising Manager, with headquarters at New Brunswick also. Mr. Christy has for some time acted as Eastern Promotion Manager for the Mason Tire & Rubber Company, in New York, and before that has had varied experience in advertising, promotion, and sales, with the Portage Rubber Company, the Dunlop Tire & Rubber Corporation, and the Syracuse Rubber Company.

Both Mr. Bleiler and Mr. Christy have just returned from trips throughout the Middle West, returning very optimistic as to the outlook for 1924.

U. S. Dividend

The United States Rubber Company recently declared its regular quarterly dividend of two per cent on its preferred stock, applicable to stockholders of record on October 15 and payable, without closing of the transfer books, on October 31.

LEE PASSES DIVIDEND ON COMMON STOCK

At a meeting of the directors of the Lee Rubber & Tire Corp'n., held on October 18, it was decided to discontinue for the time being payment of dividends on the Lee Rubber & Tire stock. This action was prompted by the conditions in the tire industry and to conserve the resources of the company.

The present price of tires is approximately 10 per cent lower than a year ago although the price of rubber has practically doubled during the same period. In spite of the decrease in the cost of all standard tires their quality has been so improved that an appreciable increase in service has been obtained.

Progress in the reorganization of the Republic Rubber Company recently acquired by Lee is progressing as planned. No benefits to the Lee Company from Republic however are expected before the first of the year when the reorganization program will be practically completed. The fact that Republic is mainly engaged in the manufacture of mechanical rubber goods and solid tires should provide an income to Lee in 1924 which will not be affected by the prevailing condition in the price of pneumatic tires. Republic's mechanical goods department is showing an increase of 60 per cent and solid tire production has already been increased 200 per cent.

Lee Rubber & Tire Company has no mortgages on any of its plants. There are no debentures or preferred stock and the bank debt is very small.

Rubber Association Activities

(Continued from Page 47)

The Hard Rubber Division met at the Yale Club in New York City on October 10th and discussed minimum quality standards and uniform tests for hard rubber sheets for radio use. Manufacturers have been making these sheets in various qualities with the result that the poorer grades have caused much unfavorable comment on rubber panels in general, to the advantage of substitutes such as bakelite.

* * *

The Specification Committee of the Mechanical Goods Division met on October 11th and considered the mechanical goods specifications issued by individual railroads with the object of having them brought more into line with the standards of the American Railway Association.

Suits Against Mason

The Mason Tire & Rubber Co., Kent, Ohio is being sued by two more of the firemen injured in the fire resulting from the explosion at plant in June, 1920. One of the injured men is suing for $50,000 and the other for $30,000. Another lawsuit resulting from the same fire has recently been declared in the plaintiff's favor after a number of appeals had been made.

Dunlop Perfects Balloon Tires

Colin Macbeth Comes to America To Discuss Tire Standardization – Balloon Experiments Started in 1916

COLIN MACBETH, experimental and development engineer of Fort Dunlop, Birmingham, England, has arrived at the plant of the Dunlop Tire & Rubber Corporation, Buffalo, N. Y., prior to a visit to American tire manufacturers whom he hopes to interest in the standardization of the balloon tire which he has been developing in England since 1916. Preceding this mission, Mr. Macbeth will discuss the development of the low pressure tire with officials of the American Dunlop works.

Colin Macbeth

Technical Head of Dunlop Rubber Co., Ltd., Birmingham, England

Safety and Comfort

In the several years that Mr. Macbeth has been interested in furthering the adoption of balloon tires, he has used them on his own vehicles, making a number of tests. He has found, he declares, that they give not only a maximum of comfort, but an assurance of safety unobtainable with the ordinary pneumatic. Then too, he says, he has observed that low pressure tires insure greater safety for women drivers.

On a twelve horse-power touring car equipped with "balloons," Mr. Macbeth reports driving up Snowden, the highest peak in Wales in two hours. This drive of 4000 feet, he says, was made between the rails of an inclined railroad which necessitated running over thousands of metal ties. When about a quarter of a mile from the peak, one of the tires was punctured, but, Mr. Macbeth declares, the run was continued as it was not until the top of the mountain was reached that the puncture was observed.

The possibility that low pressure tires will reduce the speed of automobiles is also discredited by Mr. Macbeth who states that on the famous Brookland, England speedway "balloons" maintained the speed set by machines fitted with ordinary pneumatics. And, he says, with low pressure tires it will be possible to make a speed of 150 miles an hour because the newer type keep very cool, even at this terrific speed.

Balloons To Solve Parking Problem?

"Balloon tires," says Mr. Macbeth, "will be a great step toward the solution of the parking problem in America. In England, the smaller, or two-seater car is in favor. Here in the United States you go in for much larger vehicles. This, of course, means that parking space is more at a premium.

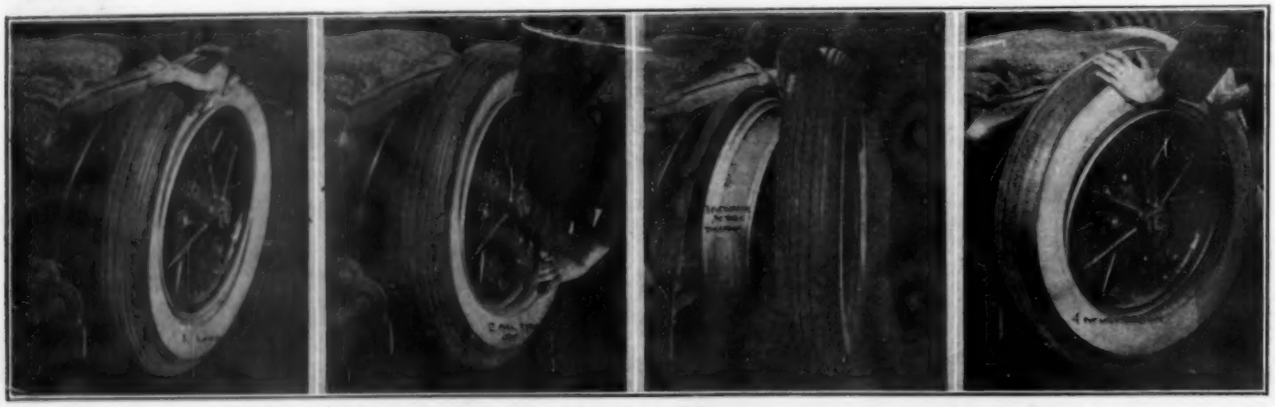
"Balloon tires will insure a maximum of comfort on the small car. With pneumatics, what shock the tires do not take, the springs take; and what the springs do not take, the seat takes; and what the seat does not take, you take.

"Now with low pressure tires this is eliminated. One day Mrs. Macbeth and I were driving along a country road. She was operating the car. Her attention was called to something we passed, and without looking she steered over a gulley. Fitted with ordinary pneumatics, we would have in all probability broken an axle. As it was, the bump was hardly noticeable.

"But about the parking problem. 'Balloons,' I have found, give the smaller type of machine a maximum of comfort. This will increase their popularity.

"And with increased usage, it will be possible for more machines to park in the congested districts. Of course small motors will decrease the cost of operating automobiles. You don't think much about that now in America, but you will. The smaller machines will use less gasoline, and some day its supply is going to be a real problem in the United States. Only use of balloon tires will permit the development of small cars in America."

Another point which Mr. Macbeth stressed was the safety factor of low pressure tires. Tests had proved, he states, which show that even at a rapid rate of speed, a puncture or



METHOD OF TAKING OFF AND PUTTING ON DUNLOP BALLOON

1. *Loosen Tire* 2. *Pull Tire Off* 3. *Fit Casing and Tube Together* 4. *Put Last Bead On*

blow-out with "balloons" is perfectly safe, where with ordinary pneumatics, the car would swerve and in all probability strike some object, endangering the lives of the occupants.

Then too, he declares, that a balloon tire has been run miles when flat, without damage to either the case or tube. Mr. Macbeth states he can remove a balloon tire in one minute with his fingers.

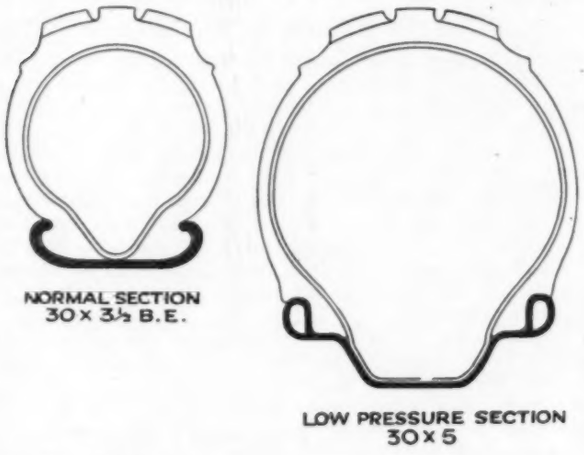
"Balloons" were started in 1916. At that time England was engaged in winning a war. The development of the low pressure tires was of necessity postponed until, as Mr. Macbeth states, "the house had been put in order." With the principle of the tire proved, it was necessary to wait only until such a time when experiments might go on without interfering with other production problems.

"In 1920," he says, "the house was put in order and we were able to tackle the 'balloon' problem with the object of making low pressure tires free from known disabilities of clincher and straight side tires. Success was reached in 1922. A valve was perfected which permits fitting 'balloons' on disc wheels. Neither do they interfere with front wheel brakes, asserts Mr. Macbeth.

Mr. Macbeth reports that using balloons have made weight reduction so easy that he has run on one piece aluminum wheels for the past year. With the one piece rim, which balloons will permit, he says, great weight and cost saving will be effected.

An international standardization is essential for rims and sections dimensions, says Mr. Macbeth. Dunlop, England, standardizes on five types of balloons against thirty-eight ordinary pneumatics.

"My object in coming to America," says Mr. Macbeth, "is not only to gather data on the development of 'balloons' in this country, but to visit American manufacturers and discuss with them the possibilities of a standardization. I will lay



India Rubber Journal

Comparison Between Standard Dunlop 3 1-2 inch Clincher and the 5 inch Balloon Tire Offered as its Equivalent

before them information concerning what Dunlop has done. Dunlop wants American users and manufacturers to have full benefit of its inventions.

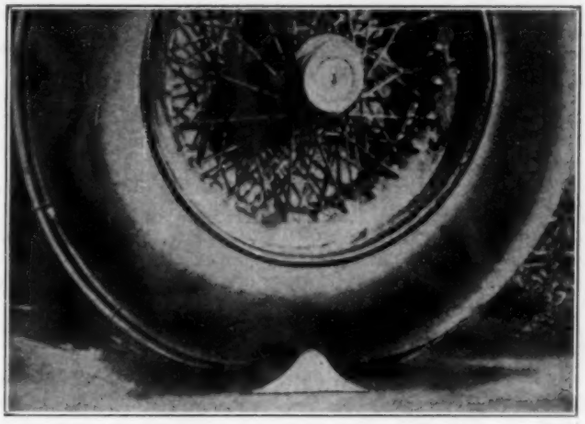
"If American tire men have something better Dunlop will be glad to adopt it. That's the purpose of my visit; to determine just what conditions are."

In addition to the information contained above, the following from the September 29 issue of the *India Rubber Journal* will be of interest:

It has been known for some time that the Dunlop Rubber Co., Ltd., had in process of development and testing a low pressure pneumatic tire incorporating features that have also been used in the "balloon" or "Doughnut" tires recently introduced in the U.S.A. With more caution than the transatlantic makers, they have, however, deferred announcing the results of their experiment, which is now stated to have been in progress since 1916.

The Dunlop Company's experiments actually began in 1916, but the war, the necessity for bringing up-to-date the range of tires for standard rims, and other circumstances combined to delay progress.

The "low pressure" pneumatic is, of course, of much larger section but lighter construction than normal tires, the former quality enabling it to carry the required load at a considerably



India Rubber Journal

Dunlop Balloon Tire Absorbing an Obstacle

reduced air pressure, and the latter permitting the walls to flex easily.

It is, however, the method of attachment that is of particular interest and importance. In using tires at very low pressures it will be obvious that they must not be dependent upon the air pressure for their retention upon the rims—an objection which applies to the present type of beaded edge tire, which is essentially an inflation-held tire.

The Dunlop "low pressure" tires is of the wire-edge type, and is, in fact, identical in principle with one of the company's very earliest patents—the Dunlop-Welch patent of 1890.

It is used in conjunction with an adaptation of the Dunlop-Welch cycle rim—a special light "one piece" rim having a "well"—or sunken-base, enabling the tire to be fitted or removed with the utmost facility without the use of any tool. When fitted, it is absolutely secure and cannot become unintentionally detached even when deflated, the wired edges being retained in position by a special molded safety rib, which rests over the rim edge, this being an exclusive patented feature.

Extended tests have demonstrated the complete reliability of this attachment and have shown that neither punctures nor sudden deflation—deliberately caused at high speeds—are a source of any danger to the user. The deflation of these tires, even from a big cut, is sufficiently slow to enable the driver to maintain full control of the car.

While the primary purpose of the tire is, of course, to give more comfortable riding and to reduce vibration, certain other advantages necessarily follow. Higher speeds can be maintained over bad road surfaces, "rattle" is reduced—if not eliminated—lighter axles, chassis and body-work are permissable, and the cost of car repairs is substantially reduced. Also because of the greater area of the tire in contact with the road, there is less liability to skid or side-slip.

The new tire and rim equipment will be offered in substitution for all existing sizes of normal pneumatic tires and will efficiently carry the same loads. The rim diameters will be the same for all sections of tires, viz., 20 inch at the tire seating, thus permitting of simple interchangeability—each rim being capable of taking as an oversize the tire of the next larger section. The over-all diameters of the tires are such as can generally be accommodated by the clearance provided for normal sized tires, and little, if any, disturbance of gear ratios will be occasioned. Incidentally, the wheel-base type of rim can be incorporated with wheels of any type—wire, artillery or disc.

Use of Rubber Balloons Abroad

American Product Superior in Quality Opportunity Exists For Trade Increase

THE development of quite an extensive American business in those European countries when currency is stabilized is possible for manufacturers of toy rubber balloons. The American product has been found to be superior in quality to the foreign balloons the local European manufacturers limiting their product to the cheaper varieties.

Children delight in their use and in a number of instances department stores have used balloons as an advertising medium by having their imprint stamped on thousands of balloons distributed free. Carnivals and fairs also make extensive use of them. Following are a number of reports on the use of these balloons in European countries.

American Toy Balloon Popular in England

The demand for rubber balloons in England has greatly increased during the past year or so. They are much used at dances, carnivals and festivities. While it is believed British manufacturers formerly supplied the bulk of the trade it would seem that American firms have been able to produce a better article, with a result that local jobbers rely for the most part on importations from the United States. (Consul Ross E. Holaday, Manchester).

Toy Balloons Used for Advertising in France

American toy balloons and novelties are most frequently to be found in the department stores where many thousands are distributed weekly free of charge to children visiting the stores with their parents. The balloons serve as an advertising medium and bear the name of the store distributing them. (Consul General A. M. Thackara, Paris).

Toy balloons are found in the toy sections of the Department stores and at the itinerant fairs. They have been used to some extent in advertising the department stores in the more populous centers. (Vice Consul Alexander C. Cruger, Marseilles).

Spanish Market for Toy Balloons

Toy balloons and balloon novelties are sold here, the cheaper grades being made locally. Those imported from the United States, France, and Great Britain have a ready sale owing to their superior quality. General agents for the Spanish market would best be appointed in Barcelona or Madrid, the chief commercial centers. (Vice Consul Manuel J. Codoner, Valencia).

Toy balloons of all classes are sold to a very large extent. Street vendors offer them for sale at nearly all periods of the year, and it is unusual to walk along a thoroughfare in a Spanish city for more than a couple of blocks without seeing a child with some sort of toy balloon. There has not been a very large variety of balloon novelties for sale here, and it is believed that local dealers would be much interested in such features. Toy balloons would be subject to the following Spanish tariff classification: Item 1525 (certificate of origin required)—Toys and goods of rubber and the like, duty under most favored nation treatment—treaty with France—7 pesetas gold per kilogram net. Duty under second (preferential) column of tariff, 8 pesetas per kilogram; under first column, 20 pesetas per kilogram. Merchandise from the United States is now accorded most favored nation treatment, but it is not known what duties will be applied to American products after Nov. 5, 1923, when the present treaty between Spain and the United States terminates, unless a commercial agreement is signed in the meantime. Spanish parcel post service is slow and unsafe, owing to pilfering, and as in accordance with the internation agreement, parcel post shipments cannot be insured, the most practicable way to ship small novelties to Spain would probably be through some American forwarding company. (Consul General Ralph J. Totten, Barcelona).

Limited Market for Toy Balloons in Portugal

The demand for toy balloons in Oporto is very limited, as the currency depreciation makes their price too high for the average buyer. The principal sale of balloons is at fairs and religious feasts during the summer months, but vendors interviewed on the subject state that sales during the present summer were exceedingly small. Toy balloons are imported from Germany, Austria and France by toy bazaars. They are classified under article No. 642 of the Portuguese customs tariff and pay an import duty of 40 centavos (approximately 40 cents) per kilo. (Consul Samuel H. Wiley, Oporto).

Swiss Import Balloons from France and Germany

The two largest department stores in Geneva have been using toy ballons for advertising purposes for some time, but the old and more conservative houses have been slow to take up such novelties. One of these department stores is a French concern and gets its balloons from the main house in Paris. The other store buys from Germany. Both French and German traveling salesmen for rubber goods make this territory at regular intervals. American balloon novelties have a good chance for success here. (Vice Consul Robert D. Longyear, Geneva).

Low Prices of Toy Balloons in Belgium and Holland

At present it is almost impossible to sell American toy balloons in Belgium because of the high value of the dollar in Belgian francs. One large department store gives several hundred balloons every week to the children of customers. This firm buys imported balloons for 80 centimes each (equivalent to 3½ cents United States currency at present). Toy balloons are manufactured in Belgium and although probably not so good as American makes, they answer the purpose. Even when conditions of exchange are more favorable, the best way of distributing to this region is through an agent at Brussels. Most of the firms here do not import direct. (Consul C. R. Nasmith, Ghent).

Toy balloons are made in Belgium on a large scale and some even exported from Belgium to the United States. (Consul General Henry H. Morgan, Brussels).

Holland offers a fairly good market for all kinds of rubber novelties. At the present time, however, the demand is to a large extent supplied by Germany which is able to deliver at unusually attractive prices owing to the exchange. (Vice Consul Eugene W. Nabel, Rotterdam).

Limited Market for Toy Balloons in Chile

There is at best but a limited market for toy balloons here. For advertising purposes they have never been tried. Toy balloons are to be seen in children's playgrounds on such days as Sundays and holidays; these are made of bladders and while probably not as attractive in appearance as imported rubber balloons they are much cheaper, retailing at $0.06 to $0.12 United States currency. Imported rubber balloons would be required to pay a customs duty of slightly more than $1.00 United States currency per kilo, net weight. (Consul C. F. Deichman, Valparaiso).

Rubber Novelties in Costa Rica and Guatemala

In general the market for balloons and novelties is rather restricted, the small population (less than 500,000) naturally precludes a large demand for such articles. Nevertheless such articles are purchasable throughout the country. The import duty is 2.00 colones per gross kilogram. Distribution

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Conditions Favor Direct to Consumer Tire Sales

"Fight fire with fire," says this tire man in the following article in which he suggests that some big tire company take the bull by the horns and change its sales policy to a mail-order basis and sell its tires direct-to-the-consumer. He argues that any favorably-known, well-advertised tire sold by mail will surely appeal to that class which now buys its tires from mail-order houses or department stores and should likewise appeal to the rest of the tire buying public."

Read this interesting article and then write the Editor what you think of the ideas advanced

By H. P. Wilkin

TIRE sales policies are undergoing a searching examination. There is clearly something wrong in the industry when the sales of most of the companies have been unsatisfactory throughout a summer following a fall and winter and spring of unprecedented automobile sales. This should have been an unusually good tire year, yet tire stocks have accumulated in the hands of manufacturers for several months until the combined inventories show totals of 7,000,000 to 8,000,000 casings and 9,000,000 to 10,000,000 tubes. At the same time dealers have complained that they were stocked and tires were not moving.

A cold late spring, followed by excessive rain in some parts of the west and south, prevented sales early in the season and then a general slackening in business and a tire price reduction about the end of May slowed down both wholesale and retail sales for the whole summer. Nevertheless, the dealers gradually worked off the stocks bought heavily on trade acceptances last winter and on open terms before the early spring price advance and have since beeen buying on small orders to meet immediate needs. All through the summer they were fearing another price drop that would catch them with a large stock bought at higher prices.

Tires have been selling to consumers, though not in the volume nor in the ways expected. Despite all the evidences of the fundamental soundness of conditions in the United States, the public suddenly stopped buying and ordering anything not required at once, and what it did buy was bought with an eye mainly to price.

Market for Tires

Owners of automobiles cannot stop buying tires—not for long if they want to use their cars. They can, of course, run their tires to destruction instead of replacing them before they actually blow out, but such a postponement of buying cannot be prolonged greatly. With approximately 13,000,000 passenger cars and 1,500,000 motor trucks in use in this country and an average consumption of two and a half tires each per year, there is a normal market between 30,000,000 and 35,000,000 tires this year.

But consumers have been bargain hunting. They have been picking up cut-price tires and throughout the west and southwest the farmers have been ordering cheap tires from the mail order houses. Second and third grade tires, sacrifice stocks of bankrupt companies, and tire seconds have been selling in preference to first quality standard goods. This has forced dealers to offer the best goods at discounts from consumer lists to protect themselves against the competition of the cheap stuff.

These conditions are well known in the trade and the problem is how to meet them. Reputable manufacturers have for years improved the quality of their tires until they succeeded in producing tires that are delivering 15,000 to 20,000 miles of service compared with at most 5,000 to 10,000 before the war—and the prices of these superior tires are lower than the prices of the inferior tires ten years ago.

Marketing of Cheap Tires

The prices of first class tires cannot be lowered much under present manufacturing and marketing methods and leave a profit for both manufacturer and dealer. Yet it would be a dangerous move for any well-known manufacturer to give up the production of first grade goods and meet the present demand for cheaper tires with only second and third grade tires. Sooner or later the public will become dissatisfied with the inferior quality and when it wants the best it will turn to those makes which have retained their reputations for long and satisfactory service. Some of the leading makers are trying to save the day by marketing cheap grades under other trade names while continuing their established high grade lines. Several have bought up smaller tire companies and are advertising and selling these tires under the names of these newer companies so as not to lower the standard of their own factory organizations or injure their own reputation for first class tires.

The financial difficulties that have decimated the ranks of the newer and lesser companies during the last three years are evidences enough that manufacturing costs and profits are close to bed rock and that little further reduction of retail prices can be expected from a cutting of these. On the other hand, dealers complain that they are not making any profit. One reason is that they are giving away a considerable part of their trade discounts by selling to consumers at ten to twenty per cent below published retail prices. Probably a better condition all around will be created by putting list prices down to the figures that dealers have actually been getting and at the same time reducing dealers' discounts to the extent that they have actually done themselves. That will not make any more profit for anybody per unit but will make prices of the better grades more attractive to the public and result in larger sales.

The vital question that confronts the manufacturer, however, is how to meet the demand for very low prices and still stay in business and make a satisfactory profit. It will not be surprising if, in this situation, some large company should take the bull by the horns and fight fire with fire—using an Irish bull and a mixed metaphore. It may do this by a complete change in sales policy, from distribution through dealers to direct-to-consumer sales. Such a step would be tremendously venturesome and would prove disastrous if it failed—but it might succeed handsomely.

No small, little-known company could get away with it, but what the mail order houses can do on a limited scale a big, reputable tire company probably could do on a huge scale.

"But," you will shake your head and query, "would the people buy high grade tires by mail?"

Well, just consider. In the first place, thousands are al-

ready buying from mail order houses and others are buying cheap tires at department stores and carrying them to their suburban homes on the cars. Now, suppose first class tires that have been advertised extensively and in the market for fifteen years, that hundreds of thousands of automobile owners have used and found satisfactory, were offered direct by the manufacturer to consumer at almost half their former prices and only a little higher than the second and third grade tires sold by mail order houses and department stores. Wouldn't the people buy them by mail?

It would not be like buying a pair of shoes or a suit of clothes. Everybody knows what the tires are and there is no question of fit, for all tires fit the standard rims. Furthermore, it is not a question of seeing the tire before buying, for most tires are sold now in their wrappings and besides, the same brand of tires has been used perhaps for years by the purchaser and he knows he can always get an adjustment if one proves defective.

Again, the time has passed when it is necessary that a motorist should be able to buy a tire of the make he prefers at any supply store, garage or repair shop along his way. He usually carries one or two spares with him and would be more likely to take this precaution if they cost a lot less. Then, it is possible to tell before hand about when a tire may be expected to give out so that a new one can be ordered by mail sufficiently in advance. Most users now buy their tires in their home towns from dealers whom they know and the buying of emergency tires wherever blowouts happen to occur along the way is much less common than in years past. At the same time, the consumer is not so loyal to his dealer that a saving of several dollars on a casing would not wean him away so far as tire purchases are concerned.

Such a change in buying habits should not be hard to effect. It has already been done to an amazing extent by the general mail order houses and it has been done in specialties such as kitchen cabinets, stoves, typewriters and other high priced products, even to cut-to-order and ready made or sectional houses and garages. So a large part of the public has already had experience in direct buying from manufacturers, and there has been so much discussion in recent years of the high costs due to indirect selling through jobbers, commission men, speculators and retailers that considerable favorable psychological effect could be created by the offer of a reputable tire company to sell direct to consumer at half price.

Any big tire company undertaking such a plan could put its consumer prices down from a third to a half and undersell all the other high grade tires and many of the inferior grades. This would be possible because the company could dispense with all of its selling organization—its salesmen, its office sales department, its credit department—and would avoid all bad account losses, save trade and cash discounts and the interest on outstanding invoices.

It costs a manufacturer as much to sell a tire under present methods as it does to make it and most of that selling cost could be saved. A tire that costs about $5 to produce sells to the dealer at approximately $10 and to the consumer at $15—except when the dealer cuts the price. Dealers who take advantage of all discounts get the tires, net, at forty per cent or more off retail list. So a manufacturer doing a mail order business could sell such a tire at $8 and make more profit than on a $10 price to dealers because of the savings effected in selling costs, freight charges and so on. He would do a strictly cash business, the mail orders being accompanied by prepayment in postal orders or shipped C. O. D. Shipments would be made by parcel post or express, charges collect or postage prepaid by the buyer. The only shipping charges the manufacturer would pay would be freight on carload shipments to his branches in the principal cities. Tires would be delivered to the customer's door in cities and in rural districts where there was rural free delivery. In small towns he would call for them at the post office or express office —no hardship, for every tire buyer has a car.

Now, as against the obvious advantages of such a system, there are the offsetting facts that such a mail order business would entail the handling of hundreds of thousands of in-

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NEEDED — A FIRE DEPARTMENT

So Says Wayne Compton in the Spreckels-Savage Tire Company House Organ in the Following Article Dealing With the "Conflagration Going on in the Tire Industry"

IT IS one thing to yell "Fire" but quite another to hurriedly devise ways and means of putting it out.

At the present time there is a considerable conflagration going on in the tire industry, with a lot of people yelling "Fire," but none apparently possessing the ability to stop it.

One reason for this is the utter confusion and lack of co-operation existing among tire manufacturers. It is a case of "every-one for himself and the devil take the hindmost," which would not be so bad if the tire manufacturers were the only ones to suffer. Unfortunately, however, the tire dealer always comes in for a "wallop below the belt" and in the end public confidence is shaken.

Can you imagine what would happen if each fire station in a city was permitted to operate as a separate unit without regard to any other station? Some fine morning there wouldn't be any city, and then the public would wake up to the necessity of adopting a definite, uniform policy, of co-operation between fire stations, and they would call the result a fire department.

As a consequence of the establishment of a fire department, building would pluck up; insurance rates would drop; new capital would seek investment in the city and all would participate in that prosperity which comes only with a sense of security.

The same principle can be applied to the tire industry.

Each manufacturer operates to a large extent, according to a policy which, in most cases, stays put about as long as the Irishman's flea. The result is, the tire dealer feels he is always on the end of a limb with the saw in the hands of the tire manufacturer. Numerous hard bumps in the last few years have not tended to heighten the dealer's respect for, nor his confidence in the manufacturer, notwithstanding the manufacturer's periodical protestations of reformation.

This being the case, (and there is no doubt about it), what is going to be done? We are all yelling "Fire;" a large part of us are ready, willing and anxious to help, but the truth is, no one seems to know just what to do. Under the circumstances then, while it may seem presumptious, it can do no harm if I lead off with a suggestion that a meeting of tire manufacturers be called and that the agenda of such a meeting be:

"Shall the tire manufacturers adopt a uniform business policy, the objects of which are:

First, *the stabilization of the industry.*
Second, *fair treatment of the dealer.*
Third, *a reasonable profit to the manufacturer.*

If anyone else has anything to offer let him speak up. The industry has about reached a point where it should be ready to listen to any reasonable suggestion. If it is not, then all must suffer until the light of reason breaks.

Hurrah for Ireland! They are cutting hay over there now instead of throats.

Rubber Factory Varnishes

Preparation of Varnishes for Glossy Surfaces of Rubber Footwear—How to Store and Use

By B. W. Elberson

IN the manufacture of rubber footwear a very glossy finish is essential and may be obtained by applying thin varnish before vulcanization. The formula is one of the few old rubber factory recipes that remains unaltered in either composition or process—linseed oil and sulphur in a proportion of about 15 to 1, (which is varied somewhat to suit conditions of the oil and varnish and the vulcanization time and temperature.) For low quality goods a little rosin is added to increase the body and brilliancy. Naphtha is used for thinning and camphene also if a black dry finish is desired. Besides luster, varnish requires a certain amount of elasticity so that it will not crack or scale off when shoes or fabric are subjected to wear. About all the different vegetable oils have been experimented with, either separately, or combined, to produce a non-cracking finish.

The raw oil is boiled several days at about 450° F. which drys it and brings impurities to the surface where they can easily be removed. There is also a blown air treatment which is sometimes employed. An ounce or two of sugar of lead if added to the caldron of oil when boiling will darken and dry it somewhat. It is customary to boil the oil a barrel at a time. When cool it is stored separately in rather tall, small drain tanks with spigots about 3 or 4 inches from the bottom so that the settlings are not disturbed, when drawing off. Tests are made for color and weight, thus obtaining an estimate of its covering properties when made into varnish.

The building for preparing oil and varnish will have one or two fireplaces and a track running into them from the outside so that the caldrons, which are on wheels, may be quickly rolled on or off the fire. Usually the varnish storeroom and shed for adding naphtha (this is generally done outdoors) are adjoining. If heated too rapidly or if a little moisture gets into the caldron, the oil will foam or boil over. A sheet iron cover that can be quickly lowered over it is sometimes useful for extinguishing the fire.

To make the varnish, the oil is brought to a temperature considerably higher than the melting point of sulphur which is gradually added and stirred until dissolved. It is dissolved when the grayish smoke or vapor no longer appears. The kettle is then immediately removed from the fire, otherwise vulcanization or coagulation will make the batch unfit for use. Solvents are slowly added, and straining or filtering is done while the liquid is still hot.

Arrangement of the storage room is of some importance. Varnish buildings should be situated where the atmosphere is free from dust, the walls of smooth, easily cleaned brick, the floor preferably of wood, (a cement floor is hardly dustless where heavy receptacles are in use), the tanks placed so that they can be easily filled and cleaned, and a good light is also desirable.

The man in charge of making the varnish and supplying it to the varnishing room should be careful and painstaking, as the job demands attention at all times, especially, as regards cleanliness of utensils and exactness in weighing and measuring, uniformity being essential. When preparing a supply for the varnishing room it is customary to draw in equal proportions from 3 or 4 tanks and combine it in large steam jacketed kettles always provided in varnish store rooms. A

Courtesy La Crosse Mills

Varnishing Rubber Boots

s. g. test is taken and to determine the covering properties and flow, tests are made with pieces of upper stock cemented on strips of tin or by dipping a shoe or two. Naphtha is then added to the required consistency (as varnish is always stored a little heavy) and after filtering it is ready for use.

The method of varnishing footwear is as follows: Shoes are sent into the varnish room 4 or 5 pair bars or sticks, and are placed, a bar at a time, on a swing carriage which takes the whole 5 pair through a trough of varnish and stops with the toes downward, thus allowing the surplus to drain off. The operator uses a brush for removing or spreading the accumulation on the toes, which he does by passing the brush along very rapidly over this part of the shoe. He, then places the bar of shoes on a vulcanizing car in a reverse position which causes the film of varnish to flow back and settle quite evenly over other parts of the shoes. Each car will hold about 40 bars, and a good workman will dip about a car and a half an hour.

Varnishing by Hand

Cloth top shoes, snow excluders, arctics, etc., are varnished by hand with a brush or the lower parts are varnished with a machine similar in principle to the above, except that the trough is very shallow so there will be no danger of the varnish getting on the edge of the cloth when the shoes are dipped. The carriage moves vertically—the shoes being placed on it, soles down and the bar removed. The apparatus has to be level with an overflow on each end of the trough to keep the liquid below or at a certain height. The top edge of heel and toe upper are finished with a brush, one shoe at a time.

For good results, a very smooth, bright upper surface is required (the bottom of the shoe is not so particular) and therefore hard, well seasoned rubber is necessary and the delivery roll of the calender highly polished; also the cutting room frames and books should be in good condition (the leaves of the latter should be of fine sheeting). The lining of the shoe is always coated heavily with a compound that will prevent the varnish going through and thus staining the inside of the shoe.

Very clean cutting and making room arrangement is essential so that the shoes arrive in the varnishing room in good order. The troughs of the machines should be emptied or filtered once or twice a day as particles of lint and wood from the shoes and lasts are liable to get in the varnish. The atmosphere in the workroom is always warm and at a uniform temperature, if best results are to be expected.

Varnishing Colored Shoes

For tan, brown and white goods which are made in small quantities a glossy paint or enamel is often used. This is put on with a brush and drys at a low temperature, the shoes usually being semi-cured before applying, as the full heat is apt to dull or produce a cloudy appearance. Oil varnish, owing to its penetrating qualities, takes a very firm hold on uncured rubber surfaces, and there appears to be no difference in the amount of adhesion whether applied by dipping, brush or roller. It is easily discolored, and a little moisture with the atmosphere during vulcanization (caused perhaps by a small heater leak) will produce a blue or galvanized effect and sometimes both. This also is noticeable to some extent under like conditions on unvarnished (dull finish) rubber surfaces.

Sulphur acts on vegetable oils much as it does on rubber, producing some elasticity which, however, gradually disappears with the aging of the goods. There is no gum or rubber solution that can be incorporated with oil varnish without spoiling its brilliancy but if the shoes are dipped in a thin pure rubber solution and allowed to dry before the varnish is applied a very fine gloss is obtained.

Foreign shoes have a heavier, blacker finish than American, their varnish being about the consistency of thin paint. They pay but little attention to the upper surface so long as it is fairly smooth, the coating being so heavy that fine calendering is unnecessary.

The formulae used abroad are generally rubber and mineral ingredients, or a large percentage of lampblack (they have never gone in very strong for reclaims in footwear) and as the vulcanizing temperature is pretty high a thick varnish seems to be necessary to produce the patent leather finish so much admired abroad. This is quite durable, the product being mostly double lined stiff backed shoes, and not very flexible. Owing to its thickness the varnish has to be brushed on, which compared to dipping is an exceedingly slow process.

Besides oil varnish (which is used on rubber coated fabrics as well as shoes, being applied when the cloth is hung in the heater) there are several shellac finishes for calendered and spread materials. The most common is a "water varnish", made by dissolving the shellac in spirits of ammonia and adding about 8 parts of water which on a very smooth calendered surface produces considerable gloss. For spread surfaces probably a better luster is obtained by dissolving the shellac in wood alcohol with 2 or 3 per cent of glycerine added. This may be applied a little heavier than "water varnish" and the glycerine to some extent prevents cracking. These liquids are applied when the fabrics are coating, and being warm, they dry off immediately, and the cloth is rolled up as it runs.

Copyright U. S. Rubber Co.

Operator Varnishing Rubber Part of Arctic

Varnish is not considered as a protection for rubber surfaces, in fact dull finished goods as a rule show up better than varnished shoes but probably deterioration is more apparent because of the glossy surface of the latter. Vegetable starches, potato, rice, corn, etc., are also used for finishing as are micas and tales.

Conditions Favor Direct to Consumer Tire Sales

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dividual orders and their shipment, the packing of tubes in individual boxes instead of in cartons of six or twelve, the employment of a good many clerks to handle the work and a good deal of record keeping of such individual sales for use in making adjustments and correction of errors. Such work would be done mainly at branches, which might have to be enlarged and perhaps do a certain amount of local selling over the counter. Dealers handling competing lines would of course "knock" the mail order tires, and a more extensive advertising campaign would have to be conducted to introduce the new policy and keep it growing. This advertising fund could, however, be increased without additional expense by turning into it all the money that is now spent on local advertising for the dealer and on store display advertising called "dealer helps." In the aggregate this sort of expenditure amounts to three per cent or more of gross sales.

The dealer is without doubt a very influential factor in promoting the sale of any make of tire when he wants to be and that influence would be lost to the maker who abandoned his dealers. It could be offset only by effective advertising and low prices. But it is not unlikely that some manufacturer will cut his bridges behind him and try it.

Symmetrical Vulcanization Accelerator Diphenylguanidine—A

SYMMETRICAL diphenylguanidine is an accelerator of vulcanization. Its chemical formula has been found to be as follows: $(C_6H_5NH)_2C:NH$. In other words it is a substituted guanidine. Guanidine itself has the formula: $(NH_2)_2C:NH$. Hence symmetrical diphenylguanidine is guanidine in which two of the hydrogen atoms, one in each amino group, is replaced by the phenyl group C_6H_5-. It can also be considered as a thiocarbanilide, in which the sulphur of the group (=CS) has been replaced by the imide group NH-.

Chemical and Physical Properties

Diphenylguanidine is a mono-acid base which is with difficulty soluble in cold water, but which is soluble to a slight degree in boiling water. Its aqueous solution reacts distinctly akaline with phenolphthalein. The product is soluble in all the organic solvents which are commonly used in rubber practice. It can be best recrystallized from its solution in toluene, in which it is very soluble in the hot state and almost insoluble in the cold condition.

The commercial product, which comes on the market as an acceleration of the vulcanization of rubber and which is bought by the rubber companies for this purpose, comes in the form of a white powder of extremely fine tenuity and of a high grade of purity. The principal impurities in the powder are traces of ash and moisture and a small proportion of organic substances. Its content of pure symmetrical diphenylguanidine is approximately 97 per cent. The product scarcely possesses any odor, and furthermore it has no poisonous or other harmful effect on the workers who handle it during the rubber manufacturing process. The vulcanized articles, which contain diphenylguanidine, do not possess any odor and neither do they evolve any toxic or injurious vapors. This is particularly advantageous in the manufacture of molded articles. The health of the workers is protected and their efficiency is materially increased.

Method of Using Accelerator in the Factory

Inasmuch as the material comes in powdered form and is non-hydroscopic, it does not require any special method of handling or use in the plant. The powder can be weighed out just as it is and added directly to the rubber batch. Due to the extremely fine state of sub-division of the substance, diphenylguanidine is perfectly and easily distributed throughout the rubber mass, with the result that uniform vulcanization of the mixture is assured.

The preferred method of using the accelerator in the factory is to make a concentrated mixture from it and rubber and to use that in making the regular rubber batches. Thus, it is easy to incorporate as much as 20 to 30 per cent of the diphenylguanidine with the rubber. In certain rubber plants it is customary to make concentrated mixtures, containing even larger percentages of the diphenylguanidine. In making these concentrated mixtures, it is necessary to see that the rubber is first well mixed and then the diphenylguanidine is added slowly by hand, so as to avoid any tendency of the material collecting into large masses on the rear roll. The finished rubber-dyphenylguanidine mixture is a little more compact and solid than the original crude rubber. It is possible to store any quantity of it for a long time without any danger of the same deteriorating or spoiling in any way.

Properties of Diphenylguanidine as a Vulcanization Accelerator

The accelerator, diphenylguanidine, can be used to good advantage in all kinds of rubber mixtures, containing any and all of the different ingredients that are commonly incorporated with rubber in making the batch. It is possible to mix with the rubber batch, containing diphenylguanidine, practically any of the various mineral and organic coloring matters that are generally employed in coloring the rubber mass without any injury to the color tone. Diphenylguanidine does not cause the colors to fade nor does it make them dull; in fact as far as can be seen, it has absolutely no affect on them at all. This property of the accelerator makes its use particularly advantageous in the manufacture of inner tubes for automobile tires, surgical rubber articles and other rubber merchandise wherein it is essential to procure a clear, brilliant and distinctive color.

Although diphenylguanidine is an extraordinarily powerful accelerator, nevertheless its critical temperature is sufficiently below that attained while mixing the rubber between the calender rolls and during the preliminary processing, that the rubber mixture is subjected to prior to vulcanization, so that no premature vulcanization takes place. It is therefore possible to make up rubber mixtures, which vulcanize very rapidly and possess particular advantages, notably applicable to the making of rubber compounds containing appreciable proportions of loading materials. Such rubber batches are used particularly in the manufacture of tires, technical and mechanical rubber articles, surgical articles, etc.

Diphenylguanidine is very active as an accelerator in a mixture containing rubber and pure sulphur, but its accelerating action is still further enhanced when oxide of zinc is added to the mixture. The best results are obtained by the use of five parts of oxide of zinc by weight to every hundred parts of rubber. Lime and other analagous substances have no sensible effect on the activity of the diphenylguanidine accelerator. It is recommended that no less than three parts by weight of zinc oxide should be employed for every hundred parts of rubber in the rubber mixture.

Proportion of Sulphur

If it is desirable to prepare mixtures which do not exhibit the phenomenon of efflorescence, it is best to use between three and four parts of sulphur to each hundred parts of rubber. In general the use of 3.5 parts of sulphur by weight to every hundred parts of rubber will give the best results. This mixture yields a vulcanization curve which is very flat and assures the production of a vulcanized product of good aging properties.

Proportion of Accelerator

Diphenylguanidine is very active even when present in the rubber mixture in very small quantities. The activity of the accelerator in the rubber mixture increases almost in direct proportion with the amount of the substance that is added until it reaches a maximum in the mixture containing 0.75 part of diphenylguanidine per hundred parts of rubber. The best results are obtained from mixtures containing from 0.5 to 0.8 part of diphenylguanidine and 3.5 parts of sulphur.

Aging of Rubber

Rubber mixtures, which have been vulcanized and accelerated by the addition of diphenylguanidine to the batch, yield vulcanized products which age very well. This is particularly the case when the proportion of sulphur with respect to the rubber is adequate. Although it is recommended that not more than 3.5 to 4 parts of sulphur be employed for every hundred parts of rubber, nevertheless mixtures have been prepared with from six to seven parts of sulphur to each hundred parts of rubber and have been known to yield vulcanized products which age very satisfactorily.

From Le Caoutchouc et La Gutta Percha.

Composition of Rubber Mixtures Used for Various Purposes

Inner Tube Manufacture

The following mixture is suited for manufacturing inner tubes of gray color:

Rubber	100 parts.
Sulphur	3.5 parts.
Oxide of zinc	5 parts.
Diphenylguanidine	0.6 part.
Carbon black or lampblack	as desired.

The vulcanization of this mixture is effected at a temperature of 288 degrees F for a period of 30 to 35 minutes. Direct steam is used. The time of vulcanization varies in accordance with the character of the rubber used in making the mixture. The inner tubes made in this manner are very resistant to wear and tear and keep very well. It is sometimes advantageous to add from 0.5 to one part of cotton seed oil to every hundred parts of rubber in order to reduce the tendency of the rubber to change on being exposed to light.

Another rubber mixture used for this purpose is composed as follows:

Rubber	100 parts.
Sulphur	5 parts.
Oxide of zinc	5 parts.
Diphenylguanidine	0.125 part.

The vulcanization takes place in this case at the same temperature of 288 degrees F but requires from 40 to 45 minutes for completion. Inner tubes made from such rubber mixture exhibit the phenomenon of efflorescence but age very well.

The following composition is used in making colored inner tubes which do not exhibit the phenomenon of efflorescence:

Rubber	100 parts.
Sulphur	2.5 parts.
Oxide of zinc	5 parts.
Diphenylguanidine	0.75 part.

To this mixture there may be added carbon black, red oxide of iron, crimson or golden antimony sulphuret, free from sulphur, or any organic coloring matter to obtan any desired color in the finished rubber product. The vulcanization lasts one hour at a temperature of 288 degrees F. It is advisable to conduct the vulcanization in this manner in order to avoid a deepening of the color. The rubber product, obtained in this fashion, possess advantageous physical properties and ages very satisfactorily. The colors are clear and bright.

Manufacture of Tires

In the manufacture of tires, tire covers and the like, the following composition has been found to give good results:

Rubber	100 parts.
Sulphur	3.5 to 4 parts.
Oxide of zinc	5 to 25 parts.
Diphenylguanidine	0.4 to 0.75 parts.

This mixture will give rubber products of superior quality. In another mixture five parts of zinc are used with one hundred parts of rubber; hence the proportion of sulphur is reduced to 3.75 parts and the maximum amount of accelerator is used, 0.75 part. The vulcanization is best carried out under practical conditions at a temperature of 288 degrees F and lasts from thirty to thirty five minutes. The aforementioned mixtures can be combined with mineral rubber, plastic materials and fillers.

In the manufacture of the body of the tire, the following composition has proven to be entirely satisfactory:

Rubber	65 parts.
Sulphur	2.25 parts.
Oxide of zinc	30 parts.
Diphenylguanidine	0.3 part.
Color	in any desirable proportion.

In the manufacture of the tire tread, the following mixture gave good results:

Rubber	92.5 parts equals 100 volumes.
Sulphur	3.5 parts.
Diphenylguanidine	0.75 to 1.0 part.

Fillers can be added to these mixtures in definite amounts depending on the nature of the loading substance so to secure rigidity and strength in the finished product. The manner in which the vulcanization of the batch is carried out will depend only on the ingredients that constitute the rubber mixture, as certain substances retard the vulcanization process more or less while others accelerate slightly or are neutral as far as their effects on vulcanization is concerned.

The vulcanization of the mixtures, which have been described above, in which anywhere from five to ten parts of oxide of zinc are added to increase the accelerating power of the accelerator, will last half an hour at a temperature of 288 degrees F. When 20 volumes of carbon black are added, the vulcanization will last 45 to 70 minutes at the same temperature, 288 degrees F, depending on the quality of pigment used.

Sulphate of barium, carbonate of lime, lithopone and aluminum flake are neutral as far as their action on vulcanization is concerned. When they are used in the mixtures, vulcanization will be complete within a period of half an hour at a temperature of 288 degrees F. On the other hand kaolin acts as a retarder of vulcanization. It is necessary to allow from 40 to 45 minutes for the complete vulcanization of rubber batches in which it is one of the ingredients, when the temperature of vulcanization is maintained at 288 degrees F.

Hard Rubber and Molded Goods

Diphenylguanidine has been found to be a very satisfactory accelerator in the manufacture of hard rubber goods. The character of the product, as far as internal structure is concerned, is remarkably good.

In the manufacture of molded goods, diphenylguanidine is used to great advantage due to several reasons. In the first place this accelerator can be used in rubber mixtures which are employed in the manufacture of all kinds of molded ware. It retains its accelerating power when recovered rubber is admixed with new rubber in the batch. Furthermore all kinds of cheap materials can be mixed with the rubber without materally affecting the accelerating action of the diphenylguanidine. Such materials as mineral rubber, resins, pitch, waxes, etc. can be used without any ill effects. Then again the hot rubber mass does not evolve any disagreeable or dangerous odors and vapors during the course of the vulcanization or when the molds are opened.

The following is a typical formula, showing the composition of a rubber batch used in the manufacture of molded rubber goods:

Rubber	25 parts
Regenerated rubber	25 parts
Sulphur	1.25 to 1.5 parts
Diphenylguanidine	0.5 to 0.6 parts
Oxide of zinc	10 parts
Carbon black or red oxide of iron	5 parts
Kaolin	30 parts
Plastic material	1.25 part

The vulcanization of this mixture is complete within a period of ten to fifteen minutes under a pressure of 66 to 70 pounds of steam.

Use of Rubber Balloons Abroad

(Continued from Page 54)

could best be effected by a resident agent at San Jose, the capital and principal city of the country. (Consul Henry S. Waterman, San Jose).

Market for Toy Balloons in Brazil

Rubber balloons, mostly of domestic manufacture, are sold to a considerable extent in the Federal district and in this city. There are few balloon novelties on the market, and products of this nature would be likely to meet with favor. Imported balloons would be at considerable disadvantage in competing with domestic products, on account of the import duty which is nominally three and one-half milreis, or actually 11.857 paper milreis per gross kilo. This duty as paid in paper milreis includes the gold 2% port tax and allows for the percentage of 60% of the nominal duty which is calculated in gold but paid in paper according to current exchange. As estimated above the duty is based on one gold to 4.668 milreis paper. The actual duty in paper milreis on the basis of present exchange amounts to about three times as much as the nominal duty, but fluctuates from day to day with the exchange. (Consul General A. Gaulin, Rio de Janeiro).

With due consideration to the fact that the mass of the population in Bahia consists of poor negroes with very slight purchasing power, the demand for toys and amusement devices is very good. Many toy balloons are sold though I have not seen any being used for advertising purposes. They are sold by dealers in toys who sometimes supply them to street vendors. (Consul Homer Brett, Bahia).

TECHNICAL ABSTRACTS

Mechanical **Chemical** **Physical**

Aniline as an Accelerator

An interesting article, which appeared in the *Journal of the Society of Chemical Industry* of Japan, 1923, page 279A, deals with the use of aniline as an accelerator of the vulcanization of rubber and of the reactions involved in process mechanism, resulting in the formation of active sulphur by the aniline. It was found that in the hot vulcanization of rubber, the aniline which is incorporated with the rubber reacts with the sulphur contained in the rubber mixture to form sulphuretted hydrogen, dithioaniline and various secondary products. If the sulphuretted hydrogen is removed from the scene of the reaction the formation of dithioaniline is increased, due to the fact that the equilibrium of the reaction is disturbed.

The rubber mixtures contained 92.5 parts of rubber, 7.5 parts of sulphur, 1.34 parts of dithioaniline in one case and 1.16 parts of dithioaniline in another case. The rubber mixtures were heated in an air bath to a temperature of 145 degrees C in an atmosphere of sulphuretted hydrogen. At the same time a control mixture, containing just rubber and sulphur, was subjected to the same treatment. The rubber and sulphur in this mixture were in the same proportions as in the first two mixtures; the same is true of another control mixture containing rubber, sulphur and aniline. In this case one part of aniline was present in the composition.

The results of the experiment indicated that dithioanaline is a powerful accelerator if the vulcanization is conducted under the above conditions. However, when the vulcanization is conducted in the presence of air, then both dithioaniline as well as thioaniline does not act as an accelerator at all; in fact they retard the curing process instead of accelerating it. In the reaction between dithioaniline and sulphuretted hydrogen, there are produced sulphur and amino-thio-aniline. As the latter can be oxidized again to dithioaniline and sulphuretted hydrogen by means of sulphur at the temperatures that prevail during the vulcanization process, the mechanism of the reaction is as follows:

1. $2\ \underset{\text{aniline}}{C_6H_5.NH_2} + 3\ S = \underset{\text{dithioaniline}}{NH_2.C_6H_4.SS.C_6H_4.NH_2}$

2. $\underset{\text{dithioaniline}}{NH_2C_6H_4.SSC_6H_4NH_2} + H_2S = 2\ \underset{\text{amino-thio-aniline}}{NH_2C_6H_4SH} + S$ (active sulphur).

3. $\underset{\text{dithioaniline}}{2NH_2.C_6H_4.SH} + S\ \text{(active)} = \underset{\text{dithio-aniline}}{NH_2.C_6H_4.SS.C_6H_4.NH_2} + \underset{\text{amino-thio-aniline}}{C_6H_4NH_2} + \underset{\text{aniline}}{H_2S}.$

Regenerating Rubber

French Patent No. 543,503 is concerned with a process of regenerating or improving rubber. It consists in first making an infusion of Roman chamomille in castor oil. About one kilogram of the chamomille is used in five liters of the castor oil. The mixture is heated to boiling and after the infusion is completed, there are added fifteen liters of castor oil. This product can then be used for coating rubber articles or for bathing them directly in a bath of the infusion at temperatures which vary from 50 to 80 degrees C. This treatment renders the rubber article very supple and increases their life to a considerable extent.

Rubber Kapok Mixture

A rubber composition is made by mixing rubber and kapok in various proportions. The most suitable are three times as much rubber as kapok. A process for making the mixture is patented in British Patent No. 196,095.

Dichlorhydroquinone As a Preventative of Spot Disease on Rubber

Results of experiments showed that dichlorhydroquinone is efficacious in preventing the formation of mould in crepe rubber. An amount equivalent to 35 cubic centimeters of a 4 per cent solution on three quarters of a gallon of latex containing 15 per cent of rubber is sufficient, when added to the latex direct. This is equivalent approximately to 0.27 per cent of sodium dichlorhydroquinone on the dry rubber or about 6 oz. of the pure chemical per 100 gallons of latex containing 1½ lb. rubber per gallon. By soaking crepe rubber in the solution, mould growth is not prevented to the same extent, although it may be retarded. The amount of antiseptic necessary to prevent mould growth does not interfere with the normal maturation of slab rubber. These small quantities of the chemical do not appear to affect either the tensile properties or the rate of vulcanization of the rubber. It is understood that a similar substance is on the market under the name of "Mouldicide."

By R. O. Bishop and V. R. Greenstreet. *The Malayan Agricultural Journal*, May, 1923.

Jelutong

The authors have analyzed samples of jelutong latex, crude and purified jelutong and determined the percentages of total solids, moisture, ash, resin and rubber. The results are regarded as incomplete inasmuch as the rubber content was determined by difference and the resin represents the acetone extract. Tapping, preparation and market products and uses are described.

By B. J. Eaton and J. H. Dennett. *The Malayan Agricultural Journal*, Sept. 1923, pp. 219-221.

Testing Rubber Mixtures

In *Chemiker Zeitung*, 1923, pages 419 to 421, there are given a number of analytical methods, prescribed by the Society of German Electrical Engineers, for testing the rubber mixtures used in making standard cables and wires. The analysis of the rubber coverings consists of the determination of the specific gravity, of the proportion of the mixture soluble in acetone (in this case two determinations are made, one of the paraffine hydrocarbons and the sulphur contained therein, and two of the total sulphur contained in the acetone extract), of the proportion of the mixture soluble in chloroform, of the amount of fillers contained in the rubber mass and finally of the part of the rubber that is soluble in half normal caustic potash solution. The specific gravity is determined by immersing the rubber compound in a solution of zinc chloride. The acetone extraction is carried out in the usual form of extraction apparatus. The paraffine hydrocarbons are found by making an alcoholic extraction of the residue left from the acetone extraction and allowing the hydrocarbon to settle out of the hot alcoholic solution. The filtrate in this test is treated with carbon tetrachloride and the paraffine is determined in it as well. The free sulphur is determined by the usual oxidation method. The chloroform extraction is made in the same manner as the acetone extraction. The fillers are found by dissolving out the rubber substance. Details of the analytical methods are given as well as instructions on the calculation of results.

RUBBER STATISTICS

Import **Production** **Export**

Importations of Crude Rubber Into the United States During September, 1923

Figures compiled and distributed by The Rubber Association of America, Inc., 250 West 57th Street, New York City.
(Estimated net weights—long tons)

PLANTATIONS

FROM	TONS
Batavia	547
Belawan-Deli	1,627
Colombo	2,383
Japan and Others	85
Liverpool	1
London	255
Malacca	483
Penang	923
Pt. Swettenham	512
Rotterdam	27
Singapore	3,631
Sourabaya	416
	10,890

MANICOBA & MATTO GROSSO

Matto Grosso	30

AFRICANS

FROM	TONS
Antwerp	5
Bordeaux	21
Liverpool	26
London	8
Rotterdam	9
	69

CENTRALS AND GUAYULE

Centrals (Mexico and Central America)	65
Guayule (Mexico)	15
	80

PARAS

Iquitos	15
Manoas	217
Para	310
	542

GUMS, WASTE RUBBER, ETC., IMPORTED FROM VARIOUS SOURCES

Waste	83	Miscellaneous Gums	165
Balata	164		

Comparison 1922-1923

	SEPT.-1922	SEPT.-1923	Total Importations 9 months ending, SEPT. 30. 1922	1923
Plantations	27,899	10,890	196,925	225,379
Paras	342	542	7,201	9,363
Africans	47	69	1,078	2,920
Central	—	65	48	387
Guayule	—	15	281	816
Manicoba and Motto Grosso	—	30	122	68½
	28,288	11,611	205,655	238,933½

ARRIVALS PLANTATIONS FOR SEPTEMBER,1923, SHOWING PORTS OF ORIGIN AND ARRIVAL

FROM	ARRIVED AT	TONS
Batavia	Boston	22
Batavia	New York	525
Belawan-Deli	Boston	21
Belawan-Deli	New York	1,606
Colombo	Boston	204
Colombo	New York	2,179
Japan and Others	New York	85
Liverpool	New York	1
London	Boston	25
London	New York	230
Malacca	New York	483
Penang	Boston	86
Penang	New York	837
Port Swettenham	New York	512
Rotterdam	New York	27
Singapore	Boston	152
Singapore	Los Angeles	7
Singapore	New York	3,232
Singapore	San Francisco	190
Singapore	Seattle	50
Sourabaya	Boston	26
Sourabaya	New York	390
		10,890

ARRIVALS OF PLANTATIONS BY PORTS

Atlantic Ports		
Boston	536	
New York	10,107	
Total		10,643
Pacific Ports		
Los Angeles	7	
San Francisco	190	
Seattle	50	
Total		247
GRAND TOTAL		10,890

The Production of Rubber in Ecuador*

VARIOUS trees, vines, shrubs and herbs producing crude rubber and indigenous to Ecuador are to be found in a wide expanse of country, at an elevation varying from 200 feet to 4,000 feet, and with a mean temperature of 26 degrees. Such conditions obtain in the provinces of El Oro, Guayas, Esmeraldas, portions of Manabia, Los Rios, and Chimborazo, and the immense territory known as the Province of El Oriente, located on the east side of the Andes where are located the head waters of the Amazon River system.

The tree producing most of the rubber in this country is supposed to be the "Castilloa elastica," which grows abundantly in its wild state; another form closely related to it being known as the "Tunu." When six years of age the tree flowers in the months of November and December. A vine which eventually develops into a tree, known locally as "matapalo" (Ficus Sp.,), also produces rubber, together with numerous other plants, including species of the genera Apocynum and Brozimus, yielding a milky juice which coagulates into a gum with the qualities of rubber.

There are a number of rubber plantations in the Balzar and Tenguel districts, as well as in the provinces of Nanabi and Esmeraldas, totaling more than one million trees. These plantations were the result of a law passed in 1902 and amended in 1904, providing for a premium or bounty for each rubber tree planted in the Republic after that date, payable when the trees should attain an age of five years or more; however, no payments have ever been made.

The propagation of these plants may be made from cuttings or seeds, the latter being the principal source. The method employed to start plantations is to cut out most of the forest trees, leaving a sufficient number for shade, and plant bananas on the open space. When the bananas attain a height of a few feet, the rubber plants are placed between them, which in six months are about seven feet high and covered with large leaves, the growth being rapid.

The commercial grades of crude rubber known in Ecuador are: andullo maroma and andullo duro (or hojas), the present quotations on which are 30 and 25 sucres per quintal, respectively, at the port of shipment, the grade depending upon the purity of the product.

Owing to the low price of rubber a few years ago its production ceased as the quotations were insufficient to cover the costs of gathering and marketing. There is no export duty on rubber at the present time, this tax having been removed by legislative decree approved Oct. 5, 1921 and executive decree of Nov. 17 of the same year.

The Indians collect the latex and reduce it to crude rubber which is delivered to the exporting centers from where it is shipped to the foreign markets. The crude rubber is transported to the ports on the backs of men and mules or by canoe. No data on the cost factors in rubber growing is kept, it being doubtful if the producers have any idea of the cost, other than the profits or losses realized at the end of the season.

During the year 1906 the exports of crude rubber from Ecuador aggregated 1,394,576 pounds; from 1910 to 1919, inclusive, 7,765,619 pounds; in 1920, 291,329 pounds; in 1922, 7,317 pounds, and for the first seven months of 1923, about 8,000 pounds.

*By Consul General F. W. Goding.

MARKETS

Cottons and Fabrics

NEW YORK, Oct. 15, 1923

Bad weather reports from cotton states and estimates of production under those given out in the Government statement of Oct. 13 have caused a radical increase in prices in the past ten days. Buying as a result has been greatly stimulated, trading reflecting an increased demand by speculative accounts for advancing quotations.

The Liverpool market has had its effect locally. Foreign quotations showed gains with the result that the relations between the two markets widened to an extent not previously experienced in September. On Oct 13, for instance, the difference was 398 points.

Extensive rainfall in the Oklahoma district and reports of frost in western grain states caused the heaviest buying seen in some time. High grades of cotton are scarce in the Southwest, also tending to hold prices up.

Cotton Consumption

The Government report showed September consumption larger than expected, and larger than the estimate of a prominent authority, from which the trade takes its cue. The stocks of cotton in consuming establishments, according to the Census Bureau, showed a reduction of only 33,498 bales, totaling 773,173 bales compared with 806,671 bales Aug. 31. This small reduction in consuming establishment stocks was believed to be due to larger receipts compared with August totals. The consumption was placed at 483,852 bales, compared with 491,604 bales for August, and 495,344 bales for September last year. The consumption did not fall off very much from last month, despite the curtailment talk that has been persistently reported by both the press and private dispatches.

Cotton Exports Large

Total exports of raw cotton from the United States during September were the largest since November, 1922, reaching a total of 689,435 bales, compared with 244,415 bales in August of this year and with 368,800 bales in September, 1922. Cotton exports in Germany during September totalled 132,116 bales, compared with 70,209 bales in August and 62,873 bales in September of last year.

Consumption of cotton by domestic mills during September, exclusive of linters, amounted to 483,852 running bales, against 491,604 bales in August and 494,013 bales in September a year ago.

Stocks of cotton, exclusive of linters (in bales) and active spindles compare as follows:

	Sept., '23.	Aug., '23	Sept., '22.
In mfg. estab..	773,173	806,671	1,065,117
In warehouses.	2,147,830	1,179,204	3,217,639
Active spindle..	33,929,885	33,708,667	33,296,513

Today's market closed at an advance of $4 to $4 50 a bale over yesterday's close. Continued reports of rain in Oklahoma, Texas and Arkansas with higher Liverpool cables and spot markets all combined to put cotton up sharply. It looks, at present as if the Government report of 4,100,000 bales for Texas would not be realized nor is the quality expected to be to standard. Since July 30 the total advance has been $41 a bale or 816 points on October, 880 ($44) on December and 836 points ($41.80) on January.

Liverpool advanced today to a new high. Activity in European cotton circles for trade and speculation caused the new high, running January to 16.0d.

Closing prices in the New York market were as follows:

	Open.	High.	Low.	Close.	Previous Day.
Oct.	29.50	29.97	29.50	29.95@29.98	29.19
Dec.	29.15	29.48	29.05	29.32@29.40	28.58
Jan.	28.60	28.88	28.55	28.80@28.82	28.08
March	28.66	28.98	28.60	28.87@28.90	28.16
May	28.65	28.95	28.64	28.85@28.87	28.17
July	28.05	28.41	28.05	28.28@28.33	27.53

Cotton Conventions

The annual convention of the American Cotton Association is being held today in Columbus, S. C. Production, costs, marketing, storing and labor problems will be discussed. At the fall convention of the National Association of Cotton Manufacturers to be held in Boston on Oct. 31 and Nov. 1, the shortage of raw cotton will be the chief subject for discussion. An official of the association has the following to say of a situation which shows that with a total of 157,000 spindles installed in cotton mills of the world there is only enough raw material in sight to keep 125,000,000 to 130,000,000 spindles employed:

"The shortage of cotton is undoubtedly the greatest problem facing the spinning industry and the coming convention will be well worth while if it serves only as a forum where manufacturers can discuss this matter, formally and informally, to see what may be done to relieve the situation.

"During the past two years the world has consumed about 41,000,000 bales of cotton and has produced only 32,000,000 bales. In this brief space of time it has drawn on the world reserves to the extent of almost a full American crop, as American crops are figured today. In this connection it should be borne in mind that in the past two years the foreign cotton mills have been curtailing extensively. If they had run full time world consumption would have been perhaps 46,000,000 bales and the deficit 14,000,000."

EXTRA STAPLE COTTON

The recent government report upset many calculations of those who had predicted an acute shortage of cotton with the result that there was quite a reaction in the New Bedford market for extra staple. Hand-to-mouth buying is the present policy of buyers. Interest has largely been in spot staples because it is felt that these stocks are of a better grade than will be obtainable in shipment cotton. Inquiry has been slight with prices steady. Stocks are low.

Prices were quoted as follows for strict middling in grade and color, f.o.b. New Bedford:

1 1/8 inch, 34½ @35½ cents
1 3/16 inch, 35 @36½ cents
1 1/4 inch, 37 @39 cents
1 5/16 inch, 39 cents upward

Egyptians have continued to decline with good buying interest shown. A short time ago the Alexandria market was firm but recently the Egyptian Government has entered the market as a buyer because of the decreased demand.

TIRE FABRICS

Further announcements of tire price decreases have reacted unfavorably on the tire fabric market. Uncertainty as to what tire manufacturers will do has resulted in a highly unstable market. Production of tires, however, continues on a high level even though little or no profit is being made on each tire. Fabric sales have been good but mills are not willing to carry large stocks of tire fabrics with both the crude cotton and tire markets in their present state. Some low priced carded peeler cord has been offered in the past few weeks at five to six cents under the general asking prices. This has been for limited quantities and has not affected the market generally. Prices of this date show a slight decline as follows:

(Continued on Page 65)

COTTON EXPORTS FROM ALEXANDRIA

Alexandria, Sept. 14, 1923

	Receipts Alexandria Cantars	Exports in Bales to England	Continent	America	Total Exports Cantars	Stock Alexandria Cantars
This week	61,636	3,229	4,592	603	64,165	815,740
Same week 1922	26,627	1,051	811	1,200	23,116	1,310,853
" " 1921	75,056	2,911	1,643	1,260	43,972	1,783,372
Since 9/1/1923	112,182	5,473	6,783	805	99,442	—
Same time 1922	59,081	3,819	3,453	3,300	80,228	—
" " 1921	133,737	13,924	7,188	3,260	185,367	—

Chemicals and Compounding Ingredients

THE INDUSTRIAL CHEMICAL MARKET—NEW YORK, Oct. 10, 1923—The market for industrials continues to be slow. Buyers are purchasing only enough for current requirements. It had been thought that the end of September would see the termination of the usual summer dullness but such has not been the case. However, no sharp breaks in prices are expected on account of the proximity of the consuming season for certain rubber products. Sellers are not inclined to sell at a loss and are therefore not attempting in many cases to meet buyer's offers. The declining market on sulphurets has resulted in a lifeless market but caustic soda has been in great demand with factories working to capacity to fill the demand.

ACCELERATORS

Organic

Aldehyde ammonia, crystals	lb.	$ .90	@ .95
Aniline oil, drums	lb.	.16	@ .17
Diphenylguanidine	lb.	1.15	@ 1.20
Excellerex,	lb.	.45	@ .50
Formaldehyde-Aniline	lb.	.52½	@ —
Hexamethylene-tetramine	lb.	.95	@ 1.00
Paraphenylenediamine	lb.	1.40	@ 1.45
Super-Sulphur No. 1	lb.	.50	@ .60
Super-Sulphur No. 2	lb.	.25	@ .35
Tetramethyl— Thiuramdisulphide	lb.	6.00	@ —
Thiocarbanilide, kegs	lb.	.35	@ .40
Vulcocene	lb.	.35	@ —

Inorganic

Lead, sublimed blue	lb.	.09¼	@ —
Lead, white	lb.	.09¼	@ —
Litharge, domestic	lb.	10.50	@11.00
Lime, Superfine	lb.	.02	@ .02½
Magnesia, calcined, light,	lb.	.23	@ .24
extra light	lb.	.45	@ —
heavy	lb.	.05	@ .06

COLORS

Blacks

Bone Black	lb.	.05½	@ .07½
Carbon "	lb.	.13	@ .15
Drop "	lb.	.07½	@ .16
Ivory "	lb.	.15	@ .45
Lamp "	lb.	.12	@ .40
Micronex		.16	@ .18

Blues

Prussian	lb.	.50	@ .55
Ultramarine	lb.	.08	@ .35
Cobalt	lb.	.21	@ .26

Browns

Iron oxide	lb.	.04	@ .05½
Sienna, Italian,	lb.	.06	@ .14¼
Umber, Turkey,	lb.	.04	@ —
Vandyke, domestic	lb.	.03½	@ .04

Greens

Chrome, light	lb.	30	@ .32
medium	lb.	.32	@ .34
dark	lb.	.34	@ .42
commercial	lb.	.12	@ —

Reds

Antimony crimson, 15/17% F.S.	lb.	.37	@ .40
sulphur free	lb.	.39	@ .50
golden, 15/17% F.S.	lb.	.19	@ .22
calcium and sulphur free	lb.	.40	@ —
red sulphuret 15/17% F.S.	lb.	.15	@ .16
Indian, English	lb.	.12	@ .15
Commercial		.18	@ —
Para toner	cwt.	1.00	@ 1.10
Red Oxide, reduced	lb.	.08	@ .12
pure	lb.	.12	@ .17
Toluidine toner	lb.	2.10	@ 2.25
Venetian red	lb.	.03½	@ .06
Vermillion, quicksilver, English	lb.	1.20	@ 1.25
domestic	lb.	.25	@ .30

Whites

Albalith	lb.	.07	@ .07½
Aluminum bronze	lb.	.55	@ .60
Azolith	lb.	.07	@ .07½
Lithopone, domestic (factory)	lb.	.06½	@ .07½
Zinc Oxide—American Process American Horse Head special	lb.	.08½	@ .09
XX red	lb.	.08	@ .08½
American Azo: ZZZ (lead free)	lb.	.08	@ .08½
ZZ (under 5 per cent leaded)	lb.	.07¼	@ .07¾
Z (8-10 per cent leaded)	lb.	.07¼	@ .07¾
Zinc Oxide—French Process White seal	lb.	.12	@ .12¼
Green seal	lb.	.10¾	@ .11¼
Red seal	lb.	.09¾	@ .10¼

Yellows

Chrome, light		.17½	@ .18
dark and medium	lb.	.17½	@ .18
Cadmium Sulphide	lb.	1.50	@ 1.75
Ocher, French	lb.	.02	@ .03½
domestic	lb.	.02½	@ .03

COMPOUNDING INGREDIENTS

Aluminum flake	ton	29.00	@ —
hydrate light	lb.	.18	@ .20
Ammonia carbonate,	lb.	.09	@ .10½
Barium carbonate,	ton	70.00	@77.00
Barium Dust	lb.	.05	@ .06
Barytes southern off-color,	ton	15.00	@18.00
Western, prime white	ton	28.00	@ —
Basofor	lb.	.04¾	@ —
Blanc fixe, dry f.o.b.works	lb.	.04	@ .04¼
Carrara filler	lb.	.01½	@ .02
Chalk, precipitated, extra light	lb.	.04¼	@ .05
heavy	lb.	.03¼	@ .04
Clay, China, domestic,	ton	15.00	@16.50
Dixie	ton	22.00	@32.00
Blue Ridge	ton	20.00	@30.00
Fossil flour	ton	60.00	@ —
Glues, extra white	lb.	.30	@ .40
medium white	lb.	.20	@ .26
cabinet	lb.	.18	@ .30
cabinet low grade	lb.	.16	@ .19
common bone	lb.	.08½	@ .14
Graphite flake, bbls.	lb.	.06½	@ .12
amorphous	lb.	.05	@ —
Infusorial earth, powdered	ton	60.00	@ —
bolted	ton	65.00	@ —
Liquid latex	gal.	1.30	@ —
Mica, powdered	lb.	.15	@ —
Rotten Stone (powdered)	lb.	.02½	@ .04½
Soapstone, powdered	ton	15.00	@20.00
Starch, powdered	cwt.	3.20	@ 3.22
Talc, domestic	ton	15.00	@18.00
French	ton	20.00	@ —
French, high grade	ton	40.00	@ —
Italian	ton	47.00	@58.00
Terra Alba	cwt.	1.85	@ 2.00
Tripoli, white	lb.	.02	@ .02½
Whiting, commercial	cwt.	1.00	@ 1.25
English cliffstone	cwt.	1.50	@ 2.50
gilder's bolted	cwt.	1.10	@ 1.25
Paris white American	cwt.	1.25	@ 1.50
Quaker	ton	13.00	@15.00
Wood pulp XXX	ton	35.00	@ —
" " X	ton	25.00	@ —
Zinc Oxide— lead free	lb.	.07¾	@ .08
5 per cent leaded		.07⅛	@ .07¼
10 per cent lead sulphate	lb.	.07¼	@ .07¾
20 per cent lead sulphate	lb.	.07¼	@ .07¾
35 per cent lead sulphate	lb.	.07½	@ .07¾

(Also see whites)

MINERAL RUBBER

Genasco (factory)	ton	50.00	@52.00
Granulated M.R.	ton	36.00	@47.00
Hard hydrocarbon	ton	31.00	@ —
Soft hydrocarbon	ton	30.00	@40.00
Pioneer M.R.	ton	42.00	@44.00
320/340 M. P. hydrocarbon (c. l. factory)	ton	45.00	@50.00
300/310 M. P. hydrocarbon (c.l. factory)	ton	40.00	@45.00
Synpro, granulated, M. R. (factory)	ton	55.00	@70.00

SOFTENERS

Acids

Acetic, 28 per cent	cwt.	3.38	@ 3.63
Cresylic, 97%	gal.	.70	@ .75
95%	gal.	.74	@ .80
Muriatic, 20 degrees	cwt.	1.00	@ 1.10
Nitric, 36 degrees	cwt.	4.50	@ 5.00
Sulphuric, 60 degrees	ton	11.00	@12.00
66 degrees	ton	15.00	@16.00
Tartaric, crystals	lb.	.34½	@ —

Alkalies

Caustic soda, 76%	cwt.	3.26	@ 3.80
Soda ash, 58%	cwt.	1.33	@ 1.75

Oils

Castor, No. 3, bbls.	lb.	.13	@ —
Chinawood, bbls.	lb.	.21¾	@ .22
Corn, crude, bbls.	lb.	.10¾	@ —
refined	lb.	.12	@ —
Cottonseed,		8.75	@ 9.00
Glycerine,	lb.	.17	@ .17½
Linseed, domestic	gal.	.85	@ .95
Palm, Niger	lb.	.07½	@ .07¼
Lagos	lb.	.07½	@ .07¼
Peanut,domestic,crude	lb.	.15	@ —
Pine, steam distilled	gal.	.67	@ .75
Rapeseed, refined	gal.	.76	@ .77
blown	gal.	.95	@ 1.00
Rosin, first rectified	gal.	.45	@ —
second rectified	gal.	.47	@ —
Tar, commercial	gal.	.31½	@ —
Soya Bean		.10¾	@ .11
Petroleum, amber	lb.	.04½	@ —
dark amber	lb.	.03¼	@ —

Resins and Pitches

Cumar resin, hard	lb.	.09	@ .10
soft	lb.	.09	@ .10
Parra M.R.	lb.	.06	@ .07
Tar Retort	bbl.	11.00	@ —
kiln burned	bbl.	11.00	@ —
Pitch, Burgundy	lb.	.05	@ .06
coal tar	lb.	.01½	@ .02
pine tar	lb.	.03	@ —
Rosin, grade K	bbl.	5.90	@ —
Shellac, fine orange	lb.	.90	@ —

Solvents

Acetone, drums	lb.	.25	@ —
Alcohol, denatured, No. 1 bbls.	gal.	.47½	@ .49½
Benzol, tanks	gal.	.27	@ .32
Benzol, 90 per cent	gal.	.25	@ .30
pure	gal.	.30	@ .35
Carbon bisulphide,	lb.	.06½	@ .07
Tetrachloride	lb.	.09	@ .10½
Dimethylaniline	lb.	.41	@ .43
Motor gasoline, steel bbls.	gal.	.18½	@ —
Naptha, V. M. & P.	gal.	.17½	@ —
Toluene		.30	@ .38
Turpentine, spirits	gal.	.95	@ —
wood	gal.	.85	@ —

Waxes

Beeswax	lb.	.40	@ .42
Carnauba, No. 1	lb.	.36	@ .40
Ceresin, white	lb.	.09	@ .10
Bayberry	lb.	.25	@ .30
Phenol	lb.	.28	@ .30
Montan, crude	lb.	.06	@ .06½
Ozokerite, black	lb.	.23	@ .24
green	lb.	.27	@ .28
Paraffine	lb.	.02¾	@ .03
Sweet wax	lb.	.10	@ .12

SUBSTITUTES

Black	lb.	.09	@ .14
White	lb.	.10	@ .16
Brown	lb.	.10	@ .15
Brown factice	lb.	.09½	@ .13
White factice	lb.	.08½	@ .15

VULCANIZING INGREDIENTS

Black hyposulphite	lb.	.21	@ .22
Sulphur Chloride (drums)	lb.	.04	@ .06
Sulphur flour (bbls.)	cwt.	3.25	@ 3.65
(bags)	cwt.	3.00	@ 3.30
Commercial		1.35	@ 1.70
Superfine		2.00	@ 2.40
Bergenp't brand (bags)	cwt.	2.45	@ 2.75
(bbls.)	cwt.	2.70	@ 3.25

Chemicals

Carbon Black—There has been an improvement in demand from rubber manufacturers with a good export demand in evidence. No increase in price is expected in view of the steady demand. Prices for spot are 14 cents at works and 15 cents for spot New York.

Lithopone—This pigment has moved well this year but little stock is believed to be in users hands. Prices remain steady at 7 cents a pound in bags, 7 to 7¼ cents in barrels in carload lots and 7¼ to 7½ cents for less than carload lots.

Zinc Oxide—Demand from the tire industry is slight as is usual at this time of the year. Quotations are as follows: American process, commercially lead free, in bags, 8 cents; barrels (carlots) 8½ cents; less than carlots, 9 cents a pound.

Caustic Soda—Market very active with contract withdrawals very heavy. Foreign demand has increased the plants are working to capacity. 76% was quoted at $3.26 @ 3.80 cwt.

Soda ash—No surplus stocks on hand. Demand and deliveries good with factories working at top speed. Prices practically same.

Barytes—Producers are busy on contracts with a firm market in evidence. Consumption is very good. No change in the present prices are expected. $15-$18 is the quotation for Southern off-color and $28 per ton for Western prime white.

Blanc Fixe—Prices unchanged.

China Clay—Moving well; same prices.

Talc—Prices steady; demand good.

Aniline—Demand increased in September with prices at 16 @ 17c.

Acetic Acid — Demand good. Prices steady.

Diphenylguanidine—Demand limited.

Mineral Rubber—Prices steady at $35 @ $50 ton.

Scrap Rubber

NEW YORK, Oct. 15, 1923

Lack of interest in scrap has resulted in a dull and unchanged market. Lowering prices of the crude market has naturally had its effect. There has been practically no demand with very few sales reported during the past two weeks. Higher scrap prices, though expected at any time, are unlikely for a considerable period. Prices remained unchanged and are as follows:

Auto tire peelings		.01¼ @	.01½
Standard White auto	ton	20.00 @	25.00
Mixed auto	ton	15.00 @	17.00
Bicycle tires	ton	14.00 @	16.00
Clean solid truck tires		.01¼ @	.01½
Boots and shoes		.03⅛ @	.03⅜
Arctics, trimmed		.02 @	.02¼
Arctics, untrimmed		.01⅝ @	.01⅝
Inner tubes, No. 1		.04½ @	.04¾
Inner tubes, compounded		.03¼ @	.03½
Inner tubes, red		.03¼ @	.03½
Battery jars, clean hard rubber		.02 @	.02½
Rubber Hose		.00⅞ @	.01
Red packing		.01 @	.01¼
White druggist sundries		.04 @	—

Reclaimed Rubber

NEW YORK, Oct. 11, 1923

Reclaimed prices remain unchanged since our last report. Inquiry however has been manifested in several quarters with the market considered active. Prices quoted are as follows:

Floating Tube		.15½ @	.15¾
Friction		.22 @	.23
Boots and Shoes (unwashed)		.10½ @	.11
Boots and Shoes (washed)		.13¼ @	.13½
Mechanical		.10 @	.11
Hose		.10 @	.11
Tires, truck		.08½ @	.09
Tires, auto, black		.09½ @	.09¾
Black (washed)		.11 @	.11¼
White		.13¼ @	.13½
Grey		.11 @	.11½

Cotton Market

(Continued from Page 63)

CORD FABRICS			
Combed Sakellarides		.75 @	—
Combed Peeler	lb.	.62 @	.65
Carded Peeler	lb.	.56 @	.58
Combed Egyptian uppers	lb.	.65 @	.70
Carded Egyptian uppers	lb.	.60 @	.65
SQUARE WOVEN			
17¼-ounce Egyptian uppers. combed	lb.	.57 @	.61
17¼-ounce Egyptian uppers. carded	lb.	.58½ @	.62½
17¼-ounce Sakellarides, combed	lb.	.65 @	.67
17¼-ounce Peeler, combed	lb.	.54 @	.58
17¼-ounce Peeler, carded	lb.	.55 @	.59

SHEETINGS—Prices are somewhat lower than in our last report but are strengthening in the last few days. Fair interest is being shown in this market with a number of sales reported.

DUCKS—Inquiries have been good but sales poor. Mechanical rubber goods manufacturers are not in the market at the present time. Some mills reduced their prices slightly, others shading prices on firm bids. Generally, however, the market is dull.

SHEETINGS			
40-inch 2.50-yard	yd.	.17 @	.17½
40-inch 2.85-yard	yd.	.15½ @	—
40-inch 3.15-yard	yd.	.16 @	—
40-inch 3.60-yard	yd.	.13 @	—
40-inch 3.75-yard	yd.	.12¾ @	—
40-inch 4.25-yard	yd.	.11 @	—
DUCKS			
Belting	lb.	.48 @	.52
Hose	lb.	.48 @	.52
Enameling	lb.	.52 @	.58
Shoe Ducks	lb.	.54 @	.56
Single filling	lb.	.23 @	.24½
Double filling	lb.	.25½ @	.26½
BURLAPS (Carload Lots)			
7½-ounce 40-inch		5.90 @	5.95
8 -ounce 40-inch		6.00 @	6.10
10 -ounce 40-inch		7.80 @	7.85
10½-ounce 40-inch		7.90 @	8.00
DRILLS			
37-inch 3.25-yard	yd.	.14 @	—
37-inch 2.75-yard	yd.	.16 @	—
37-inch 3.00-yard	yd.	.15 @	—
37-inch 3.50-yard	yd.	.13½ @	—
37-inch 3.95-yard	yd.	.12 @	—
OSNABURGS			
30-inch 7-ounce		.16½ @	.17
40-inch 7-ounce		.17 @	.18

Additional Workers Being Hired

The beginning of October saw a slight revival in reemployment in several of the Akron tire manufacturers. Both Miller and Firestone began to take on some of their former employes, Miller limiting itself to female help while Firestone took back some of the former male employes in addition to some girls. Increased production in the near future is expected as a result of additional orders received in the past several weeks.

Crude Rubber

NEW YORK, Oct. 15, 1923

Recent activities on the London market have had their effect on New York quotations of crude rubber with the result that prices show a decline varying up to 2c below those given two weeks ago. This decrease continued for the greater part of last week until first latex was being quoted at around 27⅝ cents. However, the market developed a little easier tone toward the end of the week with prices up about half a cent.

The weakness of the London market was attributed to some liquidation and a failure. The market this morning was a lot easier in tone with practically no changes over the week-end. Sales for the past fortnight have only been fair with the same condition in regard to buyers and sellers as reported in our last report. Buyers ideas are still somewhat under seller's with the result that there has been little trading. There has been no stocking up, manufacturers seemingly being content to carry small stocks only.

The lower grades of plantations and paras were neglected, remaining dull and unchanged.

First latex is quoted this morning at 28 cents and ribbed smoked sheets, spot, at 27½ cents. Up-river and islands paras receded about one cent. Prices quoted are as follows:

Plantations			
First Latex, spot		.27¾ @	.28
Ribbed Smoked Sheets		.27¼ @	.27½
Nov.-Dec.		.27½ @	.27¾
Jan.-March		.28⅛ @	.28¼
Jan.-June		.28¼ @	.28½
Amber Crepe No. 1, spot		.26⅞ @	.27
Amber Crepe No. 2, spot		.26⅛ @	.26¼
Amber Crepe No. 3, spot		.25⅞ @	.26
Light Clean Thin Brown Crepe		.26½ @	.26¾
Commercially Clean Thin Brown Crepe		.26⅛ @	.26¼
Specky Brown Crepe		.25⅞ @	.26
Roll Brown Crepe, spot		.25½ @	.25¾
Paras			
Madeira Fine		.27¼ @	.27
Acre Fine		.25¼ @	.25½
Up-river Fine		.25½ @	.25¼
Up-river Medium		.22¾ @	.23
Up-river Caucho Ball (shipment)		.21¾ @	.22
Up-river Coarse		.20¾ @	.21
Islands Fine		.21⅛ @	.22
Islands Medium		.20 @	—
Islands Coarse		.13¼ @	.13½
Cameta		.13¼ @	.13½
Xingu Ball		.20¼ @	.20½
Tapajos Fine		.23¼ @	.23½
Tapejos Medium		.20¼ @	.20½
Pontianac			
Prime Pressed		.11 @	.12
Plantation		.07½ @	—
Bangermassin		.07 @	.08
Siak Gutta Percha		.18 @	.19
Prime Macassar		3.00 @	—
Balata			
Surinam Sheets		.80 @	.85
Columbia Block		.60 @	.65
Venezuela Block		.70 @	.75
Guayule, washed and dried		.28 @	—

Woonsocket Announces Five-Day Schedule

The Millville factory of the Woonsocket Rubber Co., Woonsocket, R. I. put a five day schedule into effect on Monday, October 8. The Alice Mill of the same company will continue its 5½ day schedule.

Rubber Patents

ISSUED OCT. 2, 1923

1,469,250—Cap for Tire-Valve Tubes. Cornelius F. Cunningham, Canton, Mass.

1,469,272—Tire-Building Machine (Horizontal Adjustment). Walter H. Hermann, Lancaster, Ohio, assignor to Hermann Tire Building Co., Columbus, Ohio.

1,469,342—Method and Apparatus for Vulcanizing Inner-Tube Splices. Horace D. Stevens, Akron, Ohio, assignor to the Firestone Tire & Rubber Co., Akron, Ohio.

1,469,344—Roller. Walter Ware, Chicago, Ill.

1,469,519—Hose. John T. Lister, Wellington, Ohio.

1,469,552—Registering Thermostat. Richard S. Burdette, Akron, Ohio, assignor to The Goodyear Tire & Rubber Co., Akron, Ohio.

1,469,633—Protective Cover for Automobile Tires. Carlos J. Escoto, Habana, Cuba.

1,469,658—Calender. John A. McCrohan, New Haven, Conn., assignor to L. Candee & Co., New Haven, Conn.

1,469,670—Tire. Geo. H. W. Lindhorst, Grace, Mont.

1,469,687 — Abdominal Support. Hattie M. Pfaltzgraff, Atlantic City, N. J.

1,469,753—Stitcher Wheel & Guard. John W. Dirkson, Kent and Lee E. Clough, Akron, Ohio, assignors to the Mason Tire & Rubber Co., a corporation of Ohio.

1,469,754—Core chuck. John W. Dirkson, Kent and Lee E. Clough, Akron, Ohio, assignors to the Mason Tire & Rubber Co., a corporation of Ohio.

ISSUED OCT. 9, 1923

1,469,768—Metallic Felly for Vehicle Wheels. Wm. N. Booth, Detroit, Mich.

1,469,769—Metallic Felly and Rim for Vehicle Wheels. Wm. N. Booth, Detroit, Mich.

1,469,875—Calendering Rubber. Leander Philip Beauregard, Chicopee, Mass., assignor to Fisk Rubber Co., Chicopee, Mass.

1,469,880—Dust-Cap Spring. Junius A. Bowden, Los Angeles, Calif., assignor to A. Schraders Sons, Inc., a corporation of Brooklyn, N. Y.

1,469,881—Spring means for Dust Caps—Junius A. Bowden, Los Angeles, Calif., assignor to A. Schraders Sons, Inc., Brooklyn, N. Y., a corporation of New York.

1,469,882—Spring Insert for Dust Caps. Junius A. Bowden, Los Angeles, Calif., assignor to A. Schraders Sons, Inc., Brooklyn, N. Y., a corporation of New York.

1,469,895—Method of Preventing Transmigration of Vulcanizing Agent in Rubber. John Parks Coe, Hastings-on-Hudson, N. Y., assignor to Morgan & Wright, a corporation of Michigan.

1,469,904—Resilient Support for Tires. Siegfried Goodman, Livingston Manor, N. Y.

1,469,917—Hand Rubber for Washing or Cleaning Purposes. Morland Micholl Dessau, London, England.

1,469,927—Tire Valve. Henry P. Kraft, Ridgewood, N. J.

1,469,966 — Tire Valve. Maxmilian Charles Schweinert, West Hoboken, N. J.

1,470,045—Rubber Heel, Frank J. Altenkirk, St. Louis, Mo.

1,470,048—Rubber Tire Core. Thomas J. Barker, Kansas City, Mo.

1,470,105—Tire. Eugene E. Redden, Springfield, Mass.

1,470,138—Tire Wrapper. Maurice Blumenthal, Brooklyn, N. Y.

1,470,239—Air Tube for Pneumatic Tires. Thos. Baker McLeroth, London, England, assignor to T. B. McLeroth, Ltd., London, England.

1,470,240—Demountable Rim for Vehicle Wheels. Fredellia H. Moyer, Johnstown, Pa.

1,470,271—Valve for Pneumatic Tires. Robinson Scaling Burn, Birmingham, England.

1,470,302—Balanced Golf Ball. Wm. I. Thomas, New York, N. Y.

1,470,319—Dust Cap for Valve Stem. Bernard M. Berngartt and Maurice M. Berngartt, Baltimore, Md.

1,470,422—Method of Making Vulcanized Products. James E. Gorsjean, Lima, Ohio.

1,470,465—Manufacture of Bead Fillers, Melvon A. Marquette, Chicopee Falls, Mass., assignor to Fisk Rubber Co., Chicopee Falls, Mass.

1,470,546—Blow-out Boot for Pneumatic Tires. Lorenzo Dowe Shilling, Kalispell, Mont.

1,470,575—Tire-Repairing Tool. Winfred R. Kepler, Akron, Ohio, assignor to the Firestone Tire & Rubber Co., Akron, Ohio.

RECENT IMPORT DUTIES

Salvador

Under a treaty of 1901 Salvador granted special reduced rates of duty on certain French commodities. These reductions are also extended to Belgium, Germany, and Italy by most-favored-nation treaties. In the absence of a treaty with Salvador, the United States does not receive the benefit of these concessions. Rubber goods not otherwise specified, rubber sponges, and rubber jewelry (Tariff Nos. 77 and 136 below) are the only items of rubber manufacture subject to conventional treatment.

Gold colon equals $0.50. Kilo equals 2,2046 pounds avoirdupois. Duties are stated in United States dollars, but paid in colones at rate of two gold colones for one dollar.

There is a surtax of 26.5 per cent of duty levied on all imports.

Tariff No.	Articles.	RATE OF DUTY Dollars per gross kilo. General	Conventional
ex31	Solid rubber tires for motor trucks	0.05	...
76	Rubber tires for carriages, automobiles, bicycles, etc.; hose and large tubes for water; and cement for automobile tires ..	0.30	...
74	Rubber belting and packing for machinery and for packing valves and boilers	0.05	...
75	Crude or manufactured rubber for flooring	0.05	...
77	Rubber piping for irrigators; toys	0.60	...
	Rubber jewelry, and rubber articles not specified	0.60	0.45
78	Rubber coats and other clothing, shoes, boots and leggings, dress shields, billiard cushions, thread, and canvas rubber-soled shoes	1.00	...
136	Rubber sponges	2.50	0.45

French Morocco

Rubber goods of foreign origin, from any country except Germany (which are subject to license and special import taxes), pay an import customs duty of 10 per cent, calculated on their wholesale cash value delivered at the custom-house.

Rubber goods imported across the land frontier from Algeria are admitted at the reduced rate of 5 per cent ad valorem.

Temporarily, all foreign goods are, in addition to the import duty, subject to a special tax of 2½ per cent ad valorem, levied at the same time as the customs duty.

Certificates of origin or manufacture should accompany all goods.

French currency is in use, as well as the Hassani or native silver currency. The metric system of weights and measures is used; the kilo equals 2.2046 pounds avoirdupois.

Haiti

The general rates of the Haitian customs duties on rubber goods apply to goods from all countries, except to certain goods from France. By a special treaty these French goods are granted ⅓ reduction on the total duties (including all surtaxes, as well as wharfage charges, weighing fees, and visa fees).

Haitian customs duties include surtaxes of 50% and 33⅓% of the duty in currency and 45% of the duty in gold. These surtaxes have been calculated, and the total duty on all rubber goods, in United States currency, is given below.

The basis for assessing the ad valorem rates is the value of the goods in place of production converted into legal currency, plus 10% for expenses. The monetary unit is the gold gourde which is equivalent to $0.20. United States currency is in use, however, and is accepted in payment of import duty.

Tariff No.	Articles.	RATE OF DUTY (Including all surtaxes)
*345	Boots and half boots for women, of all kinds. Per dozen pairs ..	$3.57
*346	The same, for girls. Per dozen pairs	1.79
*347	Elastic and lace boots for men. Per pair	.89
*348	The same, for boys. Per pair ..	.48
*351	Footwear of all kinds, for children. Per dozen pairs	1.19
*355	Slippers of rubber or with rubber soles. Per dozen pairs	3.57
*413	Mackintosh coats. Each	1.19
555	Elastics: garter. Per ell (46.77 inches)	$0.0238
*556	Elastics: boot. Per ell (46.77 inches)	.048
710	India rubber erasers, pencil or ink. Per dozen	.06
*890	Hip suspenders. Per dozen pairs	.60
*810	Garters. Per dozen pairs	.60
*811	Toys of all kinds	24%
1359	Nipples. Per dozen	$0.12
ex1365	Rubber stamps. Each	.12
1482	Pipes (hose): rubber, linen cloth, etc. Per foot	.012
	Articles not otherwise specified ..	24%
	Rubber tires and inner tubes for motor vehicles of all kinds	12%

*French rubber goods falling under these tariff numbers are granted a ⅓ reduction on the total duties (including all surtaxes, as well as wharfage charges, weighing fees, and visa fees).

Trade Marks

OCT. 2, 1923

DUPLEX—No. 179,611. American Auto Accessories Stores, Wilkes-Barre, Pa. For rubber and fabric tires and tubes.

GEBS—No. 180,174. Gebs Boot Shop, Pittsburg, Pa. Boots, shoes and slippers made of leather, rubber or fabric.

REG'LAR FELLERS—No. 182,130. Eugene Byrnes, Carmel, Calif. For golf balls, tennis balls, footballs and basketballs.

Representation of a boy and dog pulling at opposite end of garter. No. 183,004. A. Stein & Co., Chicago, Ill. For dress shields, elastic webbing and shirred elastic ribbon. (Not subject to opposition)

STASET—No. 174,154. Selden G. Warner, doing business as the Staset Company, West Orange, N. J. For diamond tools for turning hard rubber.

OCT. 9, 1923

LIBERTY PATCH—No. 179,175. U. S. Distribution Co., Saginaw, Mich. For sheet rubber and textile rubber patches.

BIGGER'S B L T—No. 180,994. Rubber Process Corp., Detroit, Mich. A chemical compound relating to the treatment, manufacture and use of rubber and rubber products.

I.T.S. Wins Patent Suit

The following announcement in the October 2 issue of the Official Gazette of the U. S. Patent Office informs us of the termination of the suit brought by the Tee Pee Rubber Co., against the I. T. S. Rubber Co., with a dismissal of the bill in favor of the defendant:

Re. 14,049, J. G. Tufford, Resilient heel, suit filed Jan. 5, 1920, D.C.,N.D. Ohio (W. D.), Doc. 519, *Tee Pee Rubber Co.* v. *The I. T. S. Rubber Co.* Decree after mandate from U. S. circuit court of appeals. Bill dismissed. I. T. S. Rubber Co. declared lawful owner. Tee Pee Rubber Co. perpetually enjoined, June 18, 1923.